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DIESEL RAILWAY TRACTION

The February issue of this RAILWAY GAZETTE *publication, illustrating and describing developments in Diesel Railway Traction, is now ready, price 2s.*

OVERSEAS RAILWAYS 1948

A Railway Gazette publication reviewing the present position and development programmes of twenty-four overseas railways

19 *Maps and* 94 *Photographs*

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THE RAILWAY GAZETTE
33, TOTHILL STREET, WESTMINSTER, S.W.1

B.R. Locomotive and Coach Liveries

THE Railway Executive on February 1 announced the liveries it has decided to adopt for locomotives and passenger coaches. Last year several trains bearing varied liveries were sent round the country and the public was invited to give its opinion on the colours. The public interest, as measured by correspondence received by the Railway Executive, proved to be very small, and we do not think we are wrong in suggesting that the liveries now decided on have been selected by the Executive itself, as we have long thought would be inevitable. Heavy-duty express passenger locomotives are to be blue with black and white lining, and selected passenger locomotives dark green with black and orange lining. Other passenger and mixed-traffic locomotives will be black with red, green and grey lining, and freight locomotives will be unrelieved black. Main-line corridor coaches will be in crimson lake with cream panels, and coaches for local steam services and passenger train vans will be in crimson lake. Multiple-unit electric coaches will be green.

* * * *

An Outcome of Modern Conditions

The report of the Lynskey Tribunal, which investigated allegations that sums of money had been paid to Ministers of the Crown and other public servants, is of particular interest because it shows clearly the circumstances in which corruption of this kind, hitherto foreign to British public life, might be engendered. *The Manchester Guardian*, commenting on the report, drew attention to the fact that the present system of controls, with trade governed by licences granted at the personal behest of Ministers and civil servants, has created an atmosphere in which the possibilities of corruption are extended from business to public administration. It argues strongly that the remedy is to abolish the licensing system and take the State and its servants out of everyday business. It is a regrettable fact that personal lobbying for licences and Government favours has become an ordinary necessity of business. It is gratifying that the censure of the Tribunal was confined to so few and that all the civil servants and most of the others named were given a clean bill, but nevertheless it is an unpleasant reflection that the basic causes of the inquiry were the by-products of an over-extended system of economic controls.

* * * *

Progress of the Permanent Way Institution

The reports received at the sixty-fifth winter general meeting of the Permanent Way Institution, held on January 29, show that the past year has been one of continued progress. The Institution now has some 5,000 members, and the membership has been doubled during the past five or six years. Well over 700 new members were elected during 1948; a new section was founded in East Anglia; and in Scotland, the Perth Section was revived, after a lapse of some years. The financial position remains sound, although rising costs have necessitated an increase in the subscription rates for certain grades of membership, as from January 1, 1949. The meeting was followed by the annual dinner, at which the Parliamentary Secretary of the Ministry of Transport, and members of the British Transport Commissions, and the Railway Executive, were the principal guests. The dinner was the first social function to be held at the Headquarters of the Railway Executive since the railways were nationalised, and the President expressed the thanks of the Institution for this facility. The meeting and the dinner are reported in greater detail elsewhere in this issue.

* * * *

British Investments in Latin America

Every year *The South American Journal* compiles statistics relating to British investments in Latin America. The most recent of these studies relates to the position at the end of 1948 and shows that the total now outstanding is much less than it has been at any time during the last forty years at £632,822,869. The total investment compares with £910,182,120 a year ago. The decline is due to the purchase by the Argentine and Uruguayan Governments of the British-owned railways operating in those republics. One result of the sale of these investments has been that the average return on the

remainder has increased slightly from 2 per cent. to 2·9 per cent., and the amount going without any return has been reduced from 47·5 per cent. to 39·8 per cent. The taking over of the British-owned Argentine railways has resulted in the removal of Argentina from the first position among British investments in Latin America. Now, at £207,973,684, nearly one-third of the total is concerned with Brazil, with Mexico occupying second place and Argentina third. The total of British money invested in railways in Latin America is £176,215,252, on which £1,080,599 of interest was received, equal to 0·6 per cent. The amount receiving no interest was £152,865,562.

* * * *

Overseas Railway Traffics

A traffic return issued by the Canadian Pacific Railway states that due to the distribution of appropriate income to non-railway accounts, and to the adjustment of rates used in calculating depreciation on a user basis, to take into account increase in the investment on which depreciation is accrued, made effective since the rates first were established, working expenses for December were £400,000 higher than they otherwise would have been. Consequently, working expenses for the month at £7,298,500 increased by very nearly twice the advance in gross earnings and net receipts fell by £510,000, to £470,750. Thus, at the close of the financial year, although gross earnings had made a £9,165,750 improvement to £88,812,250, net receipts at £4,604,750 showed a deterioration by £1,118,250. Serious declines in United of Havana traffics have resulted from this year's late sugar crop. In the week ended January 15, when only six mills were grinding, as compared with forty in 1948, receipts were down by $99,219, at $204,065 and, in the following week, fell by $211,682 from last year's total of $425,274. The aggregate for 29 weeks is $6,232,653, compared with $8,659,761 in 1948.

* * * *

The Scottish Motor Traction Nationalisation

Under the terms of the settlement signed in London on January 25, of which we recorded brief details last week, the British Transport Commission is purchasing the bus assets of the Scottish Motor Traction group of companies, as from March 31, 1948, subject to confirmation by the stockholders. Two new companies are being formed, one to be named Scottish Omnibuses Limited, to which will be transferred the assets that are taken over by the Commission, and the other to be named the S.M.T. Sales & Service Co. Ltd., to which will be transferred the remaining assets of the company. Properties of which the B.T.C. will thus acquire outright ownership (it already owns one-half interest, inherited from the L.M.S.R. and the L.N.E.R.) consist of:—

The bus assets of the parent company.

The whole of the share capital of W. Alexander & Sons Ltd., and its subsidiary, David Lawson Limited.

The whole of the share capital of the Western S.M.T. Co. Ltd., and its subsidiaries, the Greenock Motor Services Company, the Rothesay Tramways Co. Ltd., and W. & R. Dunlop Limited.

The whole of the share capital of the Central S.M.T. Co. Ltd., and its subsidiary, the Lanarkshire Traction Co. Ltd.

The agreed valuation of the assets detailed amounts to £26,800,000, but there are certain minority interests in the capital of subsidiary and sub-subsidiary companies valued at approximately £2,938,300, and the B.T.C. itself inherited from the railways interests in these last-mentioned companies valued at £3,363,700. These reduce the total agreed valuation by £6,302,000, leaving the valuation of the assets belonging to the preference and ordinary stockholders of the S.M.T. at £20,498,000. The S.M.T. Group services predominate in an area containing 90·6 per cent. of the population of Scotland.

* * * *

Telling the Passenger

The importance of maintaining friendly relations in all contingencies between railway employees and the travelling public is brought out by the Pennsylvania Railroad in a staff instruction booklet entitled "If Trains Are Delayed." The theme of the booklet is that when trains are held up by out-of-the-way checks or by accidents on the line, whether due to human or mechanical failure or to inclement weather, the passengers should be kept fully informed as to the cause of the delay and the steps being taken to get the wheels turning again. Particular stress is laid on the manner and spirit in which the information is imparted; conductors and other trainmen are expected to make courteous and well-phrased announcements in every car so that no passenger shall be in doubt that the company is doing its best to get him to his destination. Station personnel are also expected to acquaint impatient intending passengers with the cause of a delay and its probable duration. No doubt the Pennsylvania Railroad is reaping a rich reward in public goodwill as a result of its enlightened policy.

* * * *

Festival of Britain, 1951

The Council of Industrial Design, which has been charged with the responsibility of selecting all the industrial exhibits to be shown at the 1951 Festival of Britain, is asking the makers of transport equipment to submit photographs of their best and most representative products. These photographs will provide an index of the trend of British design for foreign inquirers who may wish to refer to it, and will also form a stock list of products from which the final selections for the 1951 Exhibition may be made. Railway products in which the Council of Industrial Design is particularly interested comprise: the most modern developments in traction, including gas-turbine, diesel and electric locomotives; all-steel and all-aluminium coaches; track-circuiting, colour-light signalling, and radar equipment; station amenities, such as indicators, name-boards, ticket machines, waiting room furniture, lighting, and luggage trolleys; and every kind of hotel and refreshment room furniture and fitting. Photographs may be sent to the Chief Industrial Officer, Council of Industrial Design, 9, Buckingham Gate, London, S.W.1. It is emphasised by the Council that, quite apart from specific exhibits of British technical achievements, transport of all kinds will play a major part in assuring the success of the 1951 Festival of Britain.

* * * *

Design of Flat-Bottom Track

The decision to adopt flat-bottom track as standard on British Railways, announced elsewhere in this issue, gives added interest to two papers read to the Railway Engineering Division of the Institution of Civil Engineers by Messrs. N. W. Swinnerton, and A. M. Sims, on Tuesday of this week. The authors are permanent way engineers of wide experience, and these contributions to the investigation of the problems affecting the design and strength of flat-bottom track are particularly welcome. Mr. Swinnerton bases his conclusions on experience gained with the experimental lengths of flat-bottom track laid on the former L.M.S.R., and, during the past twelve months, on the London Midland Region. On the other hand, Mr. Sims has re-examined the question in the light of recent research work on the railways of America and India, and also considers rail sections suitable for narrow-gauge lines. Both authors have devoted considerable attention to the design of fishplates, and Mr. Swinnerton, who is concerned with the particular needs of British railways carrying intensive traffic at high speeds, also deals with the important questions of baseplates and fastenings.

* * * *

The Possibilities of Aluminium for Bridgework

The recent opening in Sunderland docks of the world's first aluminium-alloy rail-cum-road bascule bridge directs attention to the possibilities of this material for bridgework generally. Wartime and subsequent experience with it in aircraft manufacture place it on a very favourable basis for such development. In the case of the Sunderland bridge, the designers and fabricators, Head Wrightson & Co. Ltd., state that the saving in weight effected as compared with a similar steel structure is approximately 60 per cent. The alloy used has an ultimate tensile strength of 50,000 lb. per sq. in. In these circumstances it would seem that large spans of such alloy should be able to compete favourably with those of steel. It may also be expected to be invaluable for military bridging, where comparatively large, though light, members could be transported easily and quickly assembled and erected, considerations all-important under wartime conditions.

British Railways to Standardise F.B. Rails

AN important statement of British railway civil engineering policy was made public on Thursday of last week when Sir Eustace Missenden announced that the Railway Executive, with the approval of the British Transport Commission, had decided to adopt flat-bottom rail as standard, instead of the traditional British bull-head rail. The F.B. rail is being used with a substantial baseplate and a form of fastening which it is hoped will involve less maintenance than is necessary with the fastening that has been used with F.B. rail on the important lines in most other countries. It remains to be seen whether this fastening will be perpetuated or some other type found to be necessary as a result of experience. Incidentally, this decision does not apply in the case of the London Transport railways.

The new standard main-line rail will be of a section weighing 109 lb. a yd., compared with the 95-lb. bull-head rail that is the current British standard. The difference in weight of rail, however, makes little difference to the total weight of metal in the track, as there is a saving in the case of F.B. rails in the weight of baseplate compared with the chair used with B.H. track. It is intended to use flat-bottom rail in this country exclusively with baseplates, and, whereas the baseplates weigh some 40 lb. each, the corresponding chairs of bull-head track weigh 46 lb. Thus, the weight of metal in a mile will be 257 tons with the 109-lb. F.B. rail, compared with 248 tons with 95-lb. B.H. track, the relatively slight increase of 4 per cent. The new rails are to be rolled in 60-ft. lengths, but may be welded into lengths of 180 ft. to 300 ft.

The Railway Executive has decided to classify all sections of running line on British Railways, of which there are some 36,000 miles of single track, into one of four main categories as follow:—

A—Lines subject to speeds exceeding 60 miles an hour over which 12 or more express passenger trains operate regularly in winter timetables every 24 hours.

B1—Lines subject to speeds of 60 miles an hour and over, but not classified as A.

B2—Lines carrying intensive traffic, even though the speed is less than 60 miles an hour.

C—Lines subject to maximum speeds 45 to 60 miles an hour.

D—Lines subject to speeds of less than 45 miles an hour.

It is two of these categories (A and B) which carry heavy fast traffic that are intended to be laid with the 109-lb. F.B. rail as relaying is undertaken. B.H. rail will be necessary for some years for re-railing, and, therefore, quantities of B.H. rail will still have to be obtained, although it is intended that an increasing proportion of F.B. rail will be laid every year, and that eventually some 22,000 track miles will be laid with the 109-lb. F.B. rail. Bearing in mind the normal life of about 20 years for B.H. rail in main-line service, and its subsequent life in secondary tracks, it is unlikely that the B.H. rail will have disappeared from British railways for 40 to 50 years at least.

A standard flat-bottom rail weighing 98 lb. a yard has also been devised for employment in category C lines, where traffic is lighter, to supplement the re-use of serviceable rail removed from higher category lines. This compares with the 85-lb. B.H. at present used for such purposes and 95 lb. B.H. for main lines.

The rail for use in category C lines will accordingly be a stronger rail than formerly used on the main lines. No shortage of sufficiently good serviceable rail for category D lines is anticipated, and these almost certainly will continue to employ a substantial proportion of B.H. rail for anything up to half-a-century ahead.

Extensive comparative tests under British traffic conditions of F.B. and B.H. rails were made by the former railway companies, and 260 miles of F.B. track had already been laid at the time of nationalisation a year ago. Since then, a further 298 miles of relaying with F.B. rails of various weights have been undertaken, and the track renewal programme for 1949 (which involves laying new rails over 1,484 miles of track) includes 463 miles with F.B. rail. The experience gained has been principally with the B.S. 110-lb. rail which was first laid on the former L.M.S.R. in 1936, and with the 113-lb. section designed by a committee from all the former main-line companies and used by all except the L.N.E.R.

It is recognised that the initial cost of heavy flat-bottom track is higher than that of bull-head track, but it is hoped that there will be an annual saving in favour of the former by reason of its longer life, and reduced maintenance costs. The 109-lb. section will be 59 per cent. stronger vertically, and 136 per cent. stronger laterally, than the standard 95-lb. B.H. rail. A mile of track laid with the new rails will require about 16,900 fewer components (including fastenings, etc.) than a mile of B.H. track with coach screw fastenings. In effect, the economic justification for the decision is economy in maintenance at the expense of first cost, but no comparative cost figures are available.

* * * *

Leopoldina Railway Co. Ltd.

GROSS receipts on the Leopoldina Railway for the year ended December 31, 1947, were £3,468,339, a slight increase of £36,305. The number of suburban and short-distance passengers fell by some five million, or 14·32 per cent., and goods tonnage declined slightly by 4·05 per cent., but the effect of these losses was mitigated by tariff adjustments. The sharp rise in expenditure, however, mainly accounted for by wage increases, resulted in a deficit of £127,493. Principal results were:—

	1946	1947
	£	£
Passengers	976,610	1,126,612
Luggage and parcels	335,892	318,917
Goods traffic	2,006,133	1,910,633
Other receipts, less payments to Governments under guarantee, and interest thereon	113,399	112,177
Gross receipts	3,432,034	3,468,339
Working expenses	3,086,150	3,595,832
Net receipts	345,884	Dr. 127,493

Expenditure out of the loan granted by the Brazilian Government aggregated £85,000, and was accounted for largely by the cost of four new suburban tank locomotives. The amount spent in 1947 for account of the improvements and renewals surcharge funds was almost £600,000. Eight 2-8-2 locomotives were imported and placed in service. Work on the duplication on the suburban section was proceeded with.

In March, 1948, Lord Hawke, Deputy Chairman, Major Baring, a director, and the Secretary visited Brazil and placed before the Brazilian Government full information relative to the position of the railway. In June a Government committee was appointed to study the company's problems, including the possibility of governmental acquisition of the railway. The report of the committee has been presented to the Minister of Transport.

Irrespective of any agreement on future ownership, however, short-term government aid is imperative; and a Government decision on the matter is awaited. To fill the vacancy which was caused by the death of Sir Henry Chapman, Sir James Milne was appointed a director and took office at the beginning of the year 1948.

* * * *

The Irish Transport Problem

IN an article which appears on page 122, Mr. Edmond A. Grace, Investigating Accountant of Coras Iompair Eireann, presents his personal analysis of the methods by which railways in Ireland have been compelled to make expensive and unrewarded contributions to the public purse, and of the effects of these contributions on the finances of the transport undertakings. It is an examination of a kind which, we believe, has not been published before in Ireland. Although it contains much that is common knowledge to railwaymen, it is valuable in its correlation of the facts from the purely economic angle. For that reason it has especial significance at present. The occasion for the article is Sir James Milne's report on Irish transport. Not yet a month off the presses, this report is under the close and cautious scrutiny of leader-writers and public representatives of all degree in Eire, pending reassembly of the Dail on February 16 or an earlier statement of Government decisions on the report. The latter seems unlikely in view of the absence in U.S.A. recently of the Minister immediately concerned, Mr. D. Morrissey.

We are inclined to agree with Mr. Grace that it is a pity Sir

James Milne did not set out in his report a general statement of public transport principles, including those on which statutory requirements have been based. This would have enabled the lay reader to understand the full imports of the recommendations. Commentators in the Irish newspapers have admitted their difficulty in sorting out general principles from specific recommendations, and the need of public understanding is particularly important in relation to the Central Highways Authority, recommended by the author of the report as the keystone of his new transport structure.

This Authority, to which we referred editorially in our December 31 issue, appears to be a suitable instrument for, *inter alia*, adjusting the relationship between State and railways, and between railways and other transport operators to secure equity in future. How long overdue is the achievement of such equity is well shown by Mr. Grace, using the recommendations of the Report, and the facts it cites, for evidence.

His article outlines that the State, by building better roads for motor vehicles, has contributed largely to destruction of the public transport monopoly it had granted to the railways in the 19th century. Later, the State maintained railway restrictions, while nurturing the monopoly-breaker. The road user was taxed on the capacity of his vehicle and, by way of fuel duties, on the extent of his use of it. He was thereby enabled to operate at cost. The railways were not. They had still to carry raw materials and other essential but low-value commodities at rates fixed low by statute. They were still expected to continue making up their losses on these low-value traffics, as they had done in the days of their monopoly, by what were in effect excess charges on high-value traffics, such as manufactured goods; but now, with road vehicles available which could be operated at cost, the consignors of high-value traffics naturally went on the roads and avoided those excess charges imposed by railways in the public interest. Whether able to reimburse themselves on high-value traffics or not, the railways, in the public interest, had to carry the low-value commodities at uneconomic rates. Somebody had to lose on the transaction; and the railways lost.

Inevitably, the railways ran into financial distress. Unable to renew their equipment on regular commercial procedure, they lost in operating efficiency and consequently in traffics again. When the State had to intervene, its intervention in Ireland, as elsewhere, took every form but that of re-adjusting statutory requirements which were now the only remnants of the grant of public transport monopoly. Thus, the financial structure and administration of railways themselves were altered; a score of Irish companies were amalgamated, and capital was written down to a tenth of its former value. These and other measures taken later were all at the expense of the stockholders.

In retrospect, a proper course of State action is easy to discern. Unfortunately, the bogey of administrative and operating efficiency has been raised at every turn in the transport history of the past thirty years, confusing the issue and deceiving the legislator. Railways never have been managed with complete efficiency, although we know few if any industries that have a better record, and none that has attained the ideal. But on this score, the most pertinent point of Mr. Grace's review of the Milne Report is made. Sir James Milne has formulated his prerequisites for efficient and economical administration and operation of Coras Iompair Eireann. He recommends that the bus fares be increased reasonably. He recommends also that a Central Highways Authority should henceforth be responsible for equitable distribution of the burden of subsidy in respect of low-value traffics and uneconomic branch lines. But having allowed for all the efficiency and economy that could flow from acceptance of his recommendations, and for some consequential increase in traffic, he still can only visualise for the years immediately ahead the conversion of C.I.E.'s present deficit into an amount £220,000 short of what is required to meet debenture interest, unless Government assistance is given in the form of relief from meeting certain financial liabilities.

The present Irish Government has no commitments so far on transport questions. It acted logically in calling in an outside investigator of Sir James Milne's calibre when it became clear that its domestic transport situation was acute. The proposals made in the Milne Report for the establishment of a Central Highways Authority as a means of equalising track costs between road and rail offer a practical solution to a problem common in many countries. If the Milne Report is adopted and its proposals implemented, the Irish Government will be in a better position than many others to advance towards rail and road co-ordination.

* * * *

U.S.A. Railway Operations in 1948

IN our January 21 issue we discussed American railroading between the years 1929 and 1947. We can supplement that account of progress by a survey of 1948 developments, thanks to the prompt arrival of the annual statistical number of our American contemporary, the *Railway Age*. Published on January 8, this number contains a review of last year's railway operations by Dr. J. H. Parmelee, Vice-President & Director, Bureau of Railway Economics, Association of American Railroads.

The statistics for the closing weeks of the year 1948 are estimated to some extent, but we know from long experience that Dr. Parmelee's figures will not be far out, when, as his custom is, he revises them to April 15 next. We envy our American friends the privilege of receiving an authoritative study of the transport position, with ample details of railway expenditure, two months before we are likely to be told the financial results of British Railways in the first year of nationalisation.

The principal statistics in the 1948 review are summarised below in three tables, which give comparative figures for 1947 and the increase or decrease per cent. The first table, dealing with freight operating results, shows that, in spite of decreases in ton-miles and wagon loadings, the average train load was 1,181 tons—a record for all time, equal to 6½ times the average train load in this country. Fewer miles were covered by either locomotives or wagons in the working day, but freight-train speed improved slightly and both net and gross ton-miles per freight train-hour established new records.

Wagon loadings were disappointing, because the number of wagons in service was increased by about 25,000 during the year and wagon shortages were less acute. The only commodities to provide higher loadings were ore and coke. Forwardings of less-than-wagon-load traffic declined by 614,000, or 10 per cent. Since 1929 forwardings of "smalls" by freight services have dropped by 59 per cent. Apparently the bulk of this valuable traffic has passed to road carriers, and airlines are abstracting a small portion of what is left.

TABLE I—U.S.A. FREIGHT OPERATING RESULTS

	1947	1948	Inc. or dec. per cent.
Revenue ton-miles (millions)	654,691	640,000	−2·3
Wagon loadings (thousands)	44,503	42,834	−3·7
Wagon load (tons)	32·6	32·9	+0·9
Train load (tons)	1,146	1,181	+3·1
Freight loco. miles per day	120	117	−2·2
Wagon-miles per day	48·8	47·4	−2·9
Freight train speed (m.p.h.)	16	16·1	+0·6
Net ton-miles per freight train hour	18,126	18,768	+3·5
Gross ton-miles per freight train hour (excluding locos.)	38,462	39,782	+3·4

Table II shows that the volume of passenger travel declined by 11 per cent.; seven passengers were lost from each train on an average. The U.S.A. railways installed about 1,100 new passenger cars in 1948 and had over 2,000 more vehicles on order at the beginning of December. These modern vehicles are costly; prices ranged from $70,000 for an ordinary coach and $89,000 for a parlour car to $140,000 for a sleeping car. Through the extensive use of diesel-electric locomotives, the average speed of passenger trains was raised to 38 miles an hour in 1948. That exceeds the pre-war speed and is only 10 m.p.h. less than the start-to-stop average speed of some of our best expresses.

TABLE II—U.S.A. PASSENGER OPERATING RESULTS

	1947	1948	Inc. or dec. per cent.
Passenger-miles	45,921	41,000	−11
Number of passengers per train	110	103	−6
Passenger loco. miles per day	218	220	+1
Passenger train speed (m.p.h.)	37·5	38·1	+1·6

Table III gives a condensed statement of financial results. Total operating revenue in 1948 was a record despite the lower volume of traffic. Increased freight rates outweighed

the loss in ton-mileage. Passenger fares were also higher, but takings fell to rather less than 10 per cent. of total operating revenue. At the end of December, the Interstate Commerce Commission authorised a further increase of about 5 per cent. in freight rates overall. This latest advance, in the Commission's judgment, will bring the rate level to 52 per cent. above the base line at June 30, 1946. Such a lift in railway charges appears reasonable compared with advances of 86·5 per cent. in wage rates and 123 per cent. in material prices, but the view is held in some quarters that the growing cost of rail carriage is inducing traders to use other types of transport, and especially in the case of small consignments.

TABLE III—U.S.A. RAILWAYS FINANCIAL RESULTS

	1947 (millions) $	1948 (millions) $	Inc. or dec. per cent.
Freight operating revenue	7,041	7,952	+12·9
Passenger operating revenue	963	954	− 0·9
Total operating revenue	8,685	9,626	+10·8
Total operating expenses	6,797	7,498	+10·3
Net operating revenue	1,888	2,128	+12·7
Net railway operating income, after deducting taxes and rents	781	970	+24·2

Although operating expenses were 10·3 per cent. higher last year the U.S.A. railways reduced their operating ratio from 78·3 per cent. in 1947 to 77·9 per cent. They also improved the rate of return on their property investment from 3·41 per cent. to 4·24 per cent. The Association of American Railroads urges that the return should be 6 per cent., to enable the railways to proceed with development programmes on which they spent $1,250 million in 1948, but on the whole the member companies have not much cause to be uneasy about the present position.

The scope for staff savings seems to be as ample on the U.S.A. as on British Railways. A total payroll of $4,743 million in 1948 was 9 per cent. above 1947 and the greatest on record. The number of employees in 1948 was 1,327,000, about 25,000 under 1947 but 300,000 above 1940. The annual earnings of the average employee were $3,575 compared with $1,913 in 1940, an increase of 87 per cent. The average rate of remuneration will soar higher in 1949 when effect is given to recent wages awards. The railways have no option but to redouble their efforts to economise in manpower by reorganising work and extending the use of mechanical devices at every opportunity.

The Association of American Railroads is somewhat uncertain about traffic prospects this year, though increased wagon loadings are forecast for the first quarter. Of one thing, however, it is confident—that the railways are gaining in efficiency and carrying capacity with every day that goes by! We hope the Railway Executive will soon be able to make a similar claim for British Railways and muster an equally convincing array of statistics in support.

* * * *

Electric Locomotive Development

FOR many years, Switzerland has been pre-eminent in the lead it has given the world in electric locomotive design, and, indeed, was one of the very first countries to apply electric traction to railways. As far back as 1899, the first standard-gauge a.c. electric locomotive appeared on the Berthoud-Thoune line, and it was appropriate, therefore, that the Institution of Locomotive Engineers, in the jubilee year of this event, should invite Dr. Gaston Borgeaud, one of the leading Swiss electric locomotive designers of today, to read a paper on: "The Latest Development of the Electric Locomotive in Switzerland—Its Mechanism and Some Problems."

At a well-attended meeting of the Institution, held on January 19, Dr. Borgeaud gave a summary of his most comprehensive paper and, although speaking in a language with which he was not very familiar, impressed his hearers especially with his keen interest in British conditions and practice.

The paper gave a summary of Swiss experience over the last fifty years, beginning with the pioneer Berthoud-Thoune locomotive of 1899 and ending with the latest "Re 4/4" design for the Swiss Federal Railways, which incorporates a number of important innovations. In the early days, a major problem was to devise a suitable type of drive for the locomotive, and a great variety of more or less experimental designs appeared—many only for a brief period, before they vanished. At that time, the use of outside coupling-rods was quite usual, and served as a reminder of the steam-locomotive ancestry of the electric machine. Coupling-rods formed an interesting item in the ensuing discussion on Dr. Borgeaud's paper, and it generally was agreed that they were most suitable for shunting and for slow-moving heavy freight types, as they gave better adhesion than an individual axle drive. Against this, of course, had to be set the high cost of repairs and maintenance.

Swiss contributions towards devising a really satisfactory axle drive have been both numerous and important. The Buchli individual axle drive was one solution; another was the Westinghouse-Sécheron drive, recently introduced with the 1-Co-1 locomotives of series "Ae 3/5," intended for service on the comparatively easily-graded lines in the plains. Of interest, also, was the Universal drive developed by the Swiss Locomotive Works and installed in twenty-three 2-Co-1 locomotives of Class "EA," which were delivered to the Great Indian Peninsula Railway by Metropolitan-Vickers Electrical Co. Ltd. This is a double-reduction gear, and allows a wide freedom in the choice of the gear ratio. The most arresting development was the disc drive of Brown-Boveri, illustrated and briefly described by Dr. Borgeaud, who admitted during the discussion that certain details of the invention could not be included, as they were trade secrets. It has enabled a motor of 1,000 h.p. to be incorporated successfully in the drive of each of two axles in a bogie, a most difficult condition to fulfil by normal means. For light express trains, the Brown-Boveri spring drive has been produced, specially for an axle loading of only 14 tons and the negotiation of numerous curves at higher speeds than formerly. Mention also was made of the notable 1-Do-1 locomotives, built by the Swiss Locomotive Works for the Netherlands Railways, in which the drive incorporates a central gearwheel revolving in plain bearings. The coupling between the axle and the gearwheel comprises five arms engaging radially in the interior of the gearwheel and bearing against spring members.

Having shown how Swiss engineers have dealt with the transmission problem, Dr. Borgeaud commented on attempts to improve the riding and curving qualities of the electric locomotive. Full attention has been given by Swiss designers to the curves published by Müller, and more recently by Curtius and Kniffler, showing the variation of friction between wheel and rail as a function of speed. From these curves, other curves are obtained, giving the power which can be transmitted between wheels and rails on an engine with (say) 100 tons adhesive weight. These results provide the fundamental data on which the subsequent design work is based. For satisfactory riding, all curves must be capable of being freely run through; the locomotive must be able to negotiate the curves without developing excessive forces between axles and track; vertical and side shocks must be minimised; on the straight track, guiding of the engine must give the best possible riding qualities. After describing the various radial axles and bogies used on electric locomotives, the author dealt with various systems of articulation between the pony truck, or leading bogie, and the nearest driving axle, including the Java truck and the centring devices used on the "Ae 4/6" locomotives of the Gothard line.

To estimate the guiding forces, some interesting experiments were made at Winterthur, with models running on circular tracks. Investigations into the causes of nosing have been made, which recall the work undertaken in this country by Dr. Davies and Mr. Arthur F. Cook, at Cambridge University, and recently published by the Institution of Mechanical Engineers in a paper entitled: "The Motion of a Railway Axle." The researches carried out on the coupling of the two power bogies of an electric Lötschberg locomotive, are likely to be far-reaching, as, on such a machine, they show the position taken up by each bogie for different values of the transverse force on curves.

The latest bogie designs are illustrated in considerable detail, and are worthy of very close attention by designers in this country; Sir William Stanier, in the discussion, paid a tribute to the wonderful riding qualities of the Bo+Bo locomotives with the latest design of bogie, axlebox, and guides.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Ministry of Transport Accident Report, Conington North

Boars Hill Heath,
Oxford. January 24

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—With reference to the above report, summarised in your January 21 issue, while motoring in Switzerland in 1947 I was held up at a level crossing on the main road between Spiez and Interlaken, where there were no gates, and the warning of the approach of a train was given by the ringing of a bell and by a flashing red light suspended above the overhead electric wires. There are other similar level crossings in Switzerland, and they appear to work satisfactorily.

British Railways should investigate the possibility of the use of this system.

Yours faithfully,
HENRY BOOTH

Gear Grinding Machines

The Gear Grinding Co., Ltd.,
Cranmore Boulevard, Shirley,
Birmingham. January 19

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—During the war years the demand for gear grinding and spline grinding machines was extremely heavy and the output of our machines was many times more than any normal consumption. A great many of these machines have been offered for disposal through the Government Pool and the auction sales. Many purchasers have been buying such machines without due knowledge that some of these machines were built for special requirements, with unsatisfactory results to themselves, and, unfortunately, sometimes resulting in wrong impressions of our desire to co-operate with users.

What happens in so many cases is that a user buys one of these machines at what is apparently a very low figure indeed, then, when he wants to start it up, gets in touch with us. Invariably we find inaccuracies, shortage of the right equipment, and sometimes machines which cannot be adapted at all, having been built for a particular job.

The position has become a very acute one, and, unfortunately, we now have to take steps to advise that we can take no responsibility for the proper operation of machines which are bought without consultation with us. All of this can be expensive, and sometimes unsatisfactory to both the user and ourselves.

I have no doubt that there are other manufacturers of specialised machines who are finding themselves in similar difficulties; therefore, I am writing this letter in the hope that you will publish it and that it will be a helpful guide to potential users of our and other specialised machines.

Yours faithfully,
A. H. ORCUTT
Managing Director

Pyrotechnic Equipment for Train Protection

The Old Manor,
Salisbury, Wilts. January 18

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In regard to Mr. Parkes's letter in the issue of January 14, on the use of pyrotechnics, one must remember that the operating conditions in this country are vastly different from those to be found in the States and Canada. It is rather doubtful if the flares would be of use on this side with the possible exception of warning approaching traffic on adjacent lines fouled by wreckage.

As it is by no means unusual to have 'phones at certain signals the idea could be extended to providing tapping-in points at regular intervals outside station limits. If these were put at, say, each ¼-mile post it would mean that one would always be within a furlong (even if the man went the wrong way he would not have more than an odd 400 yd. to go), and their positions would be known to drivers and guards; gangers could use them as well should occasion arise. They would be placed in the local inter-box circuit so that the signalman on each side could be informed of the position in less time than it would take to walk to the box. Telegraph routes are not always easily accessible from the track.

Turning to the subject of rotary snowploughs, the States and Canada have for many months every year regularly quantities of snow that we rarely have to deal with or even see. Also the quality is vastly different. Switzerland has a good deal to contend with every winter. Many of their lines are kept open by patrolling wedge (V-shaped) ploughs at hourly intervals or less. The difference in cost and maintenance is too obvious to need dwelling on. There is much that even the rotary will not deal with.

There always is a lapse of time between the birth of an idea and its appearance as a *fait accompli*. Doubtless, Colonel Brooke-Hitching recalls the milestones of aviation between Icarus and the Wright brothers!

Yours faithfully,
COURTENAY BARRY

Wales and Road Transport Divisions

24, Greville Place,
London, N.W.6. January 6

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—May I, please, make a gentle protest against your editorial statement of December 17 which reads: "The R.T.E. has divided England into 7 divisions . . .", whereas the accompanying map shows that the seven divisions comprise England and Wales, and that the headquarters of one division is in Wales (Cardiff)? I cannot believe that shortage of space can justify this transgression against the Principality, especially as you refer to Scotland correctly.

And why, Sir, on your map, is the island county of Anglesey without name? Can it be that in the new road transport organisation it is akin to Satan and to be known as the "Nameless One," or is it, like a famous departmental store in Oxford Street, so well known that it does not need to have its name on it? But I would suggest that on this map the county's name should be shown, not only for reasons of symmetry, but because from the county comes the name of a famous highway whose traffic is now the concern of the R.T.E—the A5.

Yours faithfully,
ALUN WILLIAMS

[The keen Welsh nationalism of our correspondent has caused him to overlook the primary object of our map, as indeed of all maps specially prepared for *The Railway Gazette*. They are not planned primarily for geographical purposes, but to depict some transport feature not shown on ordinary atlases. Thus, Scotland is indicated, as it constitutes one of the Road Transport Freight Divisions. Neither England nor Wales is shown on our map as a name, as the divisional boundaries do not coincide with the boundary between the two countries. Incidentally, the official map of the Road Transport Executive (unlike our own) does not even name Holyhead!—ED., *R.G.*]

Diesel *v.* Steam Locomotives

Middle Creek, Via Sarina,
North Queensland,
Australia. November 29, 1948

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I was pleased to see in your July 16, 1948, issue, a reply by Mr. Bennett-Powell to my "Diesel *v.* Steam Locomotives" letter in your June 18 issue, which I thank you for publishing. Although Mr. Bennett-Powell, in his rather vague letter, did not actually contradict my statements, I will briefly comment on his letter with your permission.

The steam locomotive may have a century-and-a-quarter of development behind it, but has it enjoyed the expenditure of an equal, let alone a proportionate amount of money which has been required to make the diesel even partly successful? I don't think it has. Steam locomotive efficiency could be raised far above the present high standard by the adoption of boosters, roller bearings and many other features, to say nothing of new type high-pressure boilers (see *The Railway Gazette* of July 9, 1948), condensing equipment, and modern repair and servicing facilities. I would say that there is far greater scope for experimental work in respect to steam locomotives than there is for diesel-electrics.

If an exhaust-heated boiler is devised for diesel locomotives it would be, to my mind, a steam advantage, for it means that you could run a steam engine off the waste heat of a diesel, but you cannot run a diesel off the waste heat from a steam engine. As thermal efficiency does not take the cost of fuel into consideration it therefore can be disregarded, as it gives no indication as to the economy of the machine in question. I would say that mechanical efficiency is more important, and in this respect the steam locomotive gives up to 97·5 per cent., whereas the diesel gives not much over 70 per cent.

In actual practice diesels are forced, at great expense, to run a higher weekly mileage than steam engines in an effort to justify their extremely high purchase cost, but that steam can easily equal the diesel in this respect is shown by tests recently carried out on the New York Central. "Niagara" 4-8-4 type steam locomotives were used in pool service with the same number of two-unit diesels. Both types ran about 29,000 miles each month. Running this huge mileage must have proved very easy for the steam engines because they were not even worked to full capacity. Steam also had a 75 per cent. on-time record and diesel 71 per cent.

Comparing this steam engine with a three-unit diesel of nearly the same power, we find that the repair and fuel costs for steam are $·356 and $·410 respectively, and for diesel $·500 and $·420. Total annual cost per mile was $1·22 for steam and $1·48 for diesel. Despite mass production, the first cost of the diesel is also more than twice that of the steam engine. In these tests, steam also proved more economical than the straight electric locomotive.

When hauling 15 coaches (1,005 tons) the steam engine accelerated from 0 to 100 m.p.h. in 16·50 min. and 21·3 miles, whereas the three-unit diesel required 26·50 min. and 37·8 miles. The two-unit diesel could not exceed 84 m.p.h. with this train.

I would like to point out that the steam engine used in these tests could have given a still finer performance had it been fitted with a booster, and if it was worked with a boiler pressure of 290 lb. instead of 275 lb. Also the huge cost of diesel repair and servicing facilities is not included in their cost figures.

With performances such as this, no wonder Mr. Bennett-Powell had to refer back as far as Stephenson's *Rocket*. Apart from confirming my previous statements, these tests must surely indicate that diesels are being purchased by American railways for some reason other than superiority in economy, performance, and reliability. Perhaps it may simply be that railway officials think the public thinks that diesels are the fashion today.

These tests, as well as other facts and figures, clearly show that modern steam locomotives are much more efficient than diesel-electrics. This being the case in the U.S.A., where both coal and diesel fuel are obtainable, how then can diesels be more successful than modern steam locomotives in Britain and Australia, where there are huge quantities of excellent steaming coal, and expensive diesel fuel has to be imported?

In conclusion, I would suggest that Mr. Bennett-Powell note the remarks made by Colonel Rudgard at the conclusion of his excellent address, reported in your September 24 issue.

Yours faithfully,
ROGER BOLAND

Longest British Non-Stop Runs

Cheviot, 33, Woodlea Road,
West Worthing. January 25

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—With regard to your paragraph on page 30 of your issue of January 14 on "Longest British Non-Stop Runs," you may be interested to know that I travelled northwards on the "Flying Scotsman" on Friday, August 27, 1948, when we went the whole distance from Kings Cross to Waverley without a stop (*via* Kelso and St. Boswells). Your paragraph would seem to suggest that it was not until September 7 that non-stop running was achieved.

Yours faithfully,
G. HARPER KING

Cambridge Buffet Expresses

11, Kings Way,
Dunstable, Beds. January 14

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I note with interest the letter from Canon Fellows in your issue of today's date, commenting on the timings of the reinstated Cambridge Buffet Expresses. Although it is true that the scheduled times are somewhat slower than those of 1939, this is partly accounted for by the fact that the pre-war trains were made up of four bogie vehicles, whereas the present trains consist of eight similar vehicles, including the buffet car.

Despite this, the timing of the present 9.27 a.m. *ex* Cambridge, in 24 min. between Welwyn Garden City and Kings Cross is precisely the same as that of the pre-war 9.25 a.m. *ex* Cambridge over the same section, despite the hundred per cent. increase in tare weight. I have travelled on this train on several occasions since its introduction, and its punctuality record is exceptionally good. Even on the two occasions during the November fogs when I used this service, it was not more than four minutes late when it arrived at Welwyn Garden City from Cambridge, and it is a heavily loaded train.

While it is to be hoped that the high-speed schedules of 1939 eventually may be restored, great credit is due to the Eastern Region for the re-introduction of these services and for numerous other adjustments to local trains, which have ensured that good connections are available to and from all stations in the suburban area, in face of the well-known operating difficulties caused by the various bottle-necks between Hitchin and Kings Cross.

Yours faithfully,
J. M. JOHNSTON

Publications Received

Railway Map of England & Wales & Scotland. London: Ian Allan Limited, 282, Vauxhall Bridge Road, S.W.1. 10¼ in. × 7¼ in. 53 pp. Price 8s. 6d.—Map study seldom proves to be less than informative and to the initiated it is a source of considerable pleasure. Bound in atlas form, this series of sectionalised railway maps merits careful attention and will be valuable as a record of the geography of British railways at the close of the grouping era. The maps have been based on those of the Railway Clearing House and their content appears to be virtually the same, apart from a number of minor modifications.

Trains Annual, 1949. Edited by Cecil J. Allen. London: Ian Allan Limited, 282, Vauxhall Bridge Road, S.W.1. 9¼ in. × 7¼ in. 96 pp. Illustrated. Price 7s. 6d.—The appearance of "Trains Annual" at the approach of the festive season no doubt will always be welcomed by those parents and uncles confronted with the problem of selecting presents, as well as by those with an enthusiasm for everything railway, who will find a feast of succulent fare in this year's edition. Articles dealing with such diverse subjects as bridges, electric locomotives, the "Flying Scotsman," signalling, and various aspects of overseas railways are suitably illustrated and include the work of several authors well known to our readers. Although rather more technical information has been included in this volume than in previous editions, the reading matter has not become overburdened with detail and the generally informative tone has been retained.

Notes on Soldering.—The Tin Research Institute, Greenford, Middlesex, has issued gratis an 88-page illustrated booklet by W. R. Lewis, B.Sc., describing the many applications of tin solder to industrial processes and manufactures. The technique of soldering has undergone many modifications and developments from the simple copper-bit method, but tin is still the basis of the accepted joining material. Fully mechanised soldering processes are now used in the mass production of telephones, radios, car radiators, foodstuff cans, and many other kinds of hollow-ware made from tinplate, sheet steel, copper, and brass. The booklet has 47 reproductions of photographs, diagrams, tables, and graphs.

Developments in Rubber. The durability of rubber compared with harder materials under certain conditions is causing it to find ever-widening applications in engineering. The growth of this tendency and the research which has made it possible is illustrated in this collection of reprints of papers contributed to the technical press by members of the laboratory staff of the Andre Rubber Co. Ltd. Topics covered include the bonding of natural and synthetic rubbers to metals, the use of rubber in electroplating, and new methods of moulding. On the latter subject the author of the paper concerned admits that technicians in the plastics field showed in the past much greater initiative and resource than their colleagues working with rubber, but claims that the rubber manufacturer is now beginning to restore the balance. The rest of this paper, which includes illustrations of various articles moulded in rubber, constitutes ample proof of his claim.

Aluminium Alloy Castings.—High Duty Alloys Limited, Slough, Bucks., has issued a 20-page booklet describing and illustrating a wide range of sand and die castings made by them in "Hiduminium" aluminium alloy. These include a variety of applications such as chair frames, washing machine components, cylinder blocks, pistons, oil cooler casings, gear covers, electrical switch boxes, and food machinery parts. "Hiduminium" alloy is claimed to be strong, light, non-corrodible, non-magnetic, thermally conductive, and easily machined. High Duty Alloys Limited also produces extrusions, forgings, stampings, pressings, slabs, billets, and ingots in "Hiduminium" and "Magnumium" magnesium alloys.

The Scrap Heap

Nationalisation—An American View

Our American contemporary, *Railway Age*, reports that at a luncheon meeting of the Chicago Chapter of the Interstate Commerce Commission Practitioners, Mr. A. J. Kelley, chairman of the Export-Import Committee of the National Industrial Traffic League, asserted that the tendency towards higher railway rates would encourage railway nationalisation, with grave consequences. He said that a "tough" railway traffic officer could usually help to solve a shipper's problem, whereas under government ownership a shipper would have to deal with "politicians who don't know a railroad track from a smokestack, and care less."

* * *

Gigli Orders a Special

Gigli, the famous Italian tenor, and his impressario wished recently to travel to Zurich immediately after an evening concert in Bienne. To avoid the risk of catching cold in a draughty motorcar, they chartered a special train at a cost of about £26 8s. for the 77 miles. At first the Swiss Federal Railways refused the request in view of the present need of conserving power, but relented and undertook to provide a special to be hauled by their gas-turbine locomotive. This was found to be undergoing repairs and therefore not available. Gigli insisted, so in the end a compromise was reached and the management placed at his disposal a lightweight electric railcar.

* * *

West Drayton Inn Sign

A new inn sign depicting the G.W.R. broad-gauge locomotive *Acheron*, built in 1842, now hangs outside The "Engine" public house at West Drayton, Middlesex. This sign was painted by a 78-year-old artist, Mr. William McKechnie, who has been officially congratulated by British Railways, Western Region.

Driver Attlee

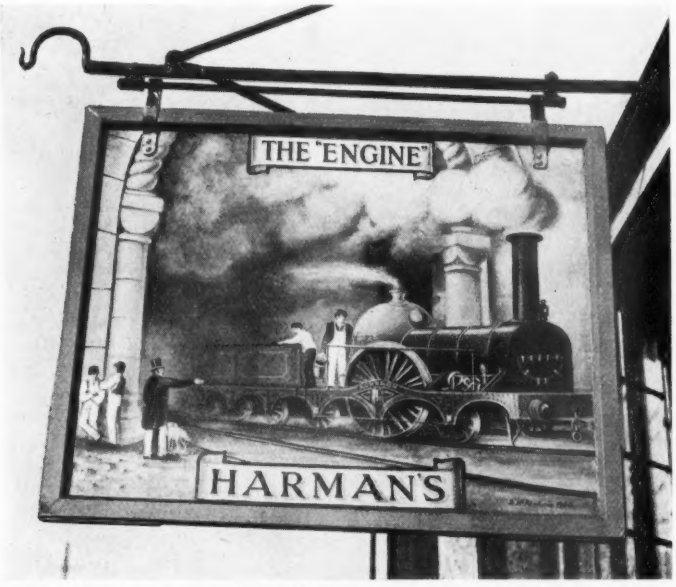
Mr. Ivor Thomas, M.P. for Keighley, likened the Labour Party to a train with one locomotive in front and another in the rear, when he addresed a recent Conservative meeting. Driver Attlee and Fireman Morrison, in the front engine, "would like to slow down and put on the brakes," he said. "In the rear engine Driver Cripps is opening the throttle and Fireman Bevan is piling on the fuel. The train rushes on madly, ignoring all red lights, to its totalitarian destination, where there is only one employer, only one landlord, and the individual cannot even blow his nose without permission of a Government inspector."—*From "The Times."*

* * *

A Dozen Years Hence

"Were a cool-headed, sagacious man to rise up in our midst and assure us, that within the next dozen years, the average rate of travel on our best railroads would be 40, 50, or 60 miles an hour—what should we think of him? And yet, beyond all question, what these roads are now doing, on the average, compared with what was expected of them, by reasonable men, about a dozen years ago, is more astonishing. In other words, it is more probable that within the next dozen years the average rate of travel on our best roads will be 40, 50, or 60 miles an hour, than it was about a dozen years ago, that we should do what we are doing every day . . . look at the prodigious augmentation of locomotive power—at the style, strength, finish, and safety of our cars—at their comfortable width, and amazing steadiness, upon the broad gauge . . . and then say whether, at the end of another dozen years, refreshment and sleeping rooms, card rooms and smoking rooms, are not more likely to be established, than were the luxuries we now enjoy, twelve years ago?"—*From "A Law of Progress," by J.N., in the "American Railroad Journal" of February 3, 1849.*

A Middlesex Inn Sign



This inn sign depicting the G.W.R. locomotive "Acheron", built in 1842, hangs outside The "Engine" public house at West Drayton (see paragraph above)

100 YEARS AGO

The Railway Times.

SATURDAY, FEBRUARY 3, 1849.

The one great question for all Railway Companies, is economy. The past, with its recklessness, its profusion, its ecstacies, its hallucinations, is gone for ever; and even those who flitted across the scene in that time of frenzy, have nearly vanished and given place to weightier men. The aristocratic adventurers who graced the dazzling programmes of the ephemeridal lines have given way by forfeiture and other modes to these less distinguished but far more efficient agents, the men who know how to make money. Hence it is that whereas, in addressing the former class, the "touters" could not sufficiently exalt the prospects and resources of railway enterprise, making it one great California of iron, it has come to pass that that same industrious body is active in the service of the more wary, and assiduously aggravates every element of depreciation to the utmost. Between these two courses the truth lies. Railways must pay, and pay well,—but those who would reap must patiently await the harvest. That this may be fuller, attention must be given to all that experience and science can suggest for the proper cultivation of the traffic and the conduct of the lines. These points form the touchstone of railway management. Railways are sources of revenue of a secondary rank. Invention, ingenuity, and talent may be bought up into their service, but, after all, they are merely portative, not creative. You may plant at the head of a Company a prince of Royal blood, if you please, but the concern, in its aim and details, is not thereby ennobled.

* * *

Railwaymen Fight in Works Canteen

In the locomotive works canteen at Derby on February 12, 73 porters, firemen, shunters, carters, and clerks of the London Midland Region will box for the championship of the Region. Winners at each recognised weight will go forward to the inter-Regional finals in London on March 29, in an attempt to become the first-ever British Railways champions; 1,300 seats will be provided at Derby to enable all grades of staff to witness the fights.

* * *

Tailpiece

Interim Report

There are jobs for the high and the haughty,
There are jobs for the humble and kind.
There are jobs for the nice and the naughty,
But they're not very easy to find.

"Here today and, perhaps, gone tomorrow"
Is a phase we may praise or deplore,
As we murmur, in joy or in sorrow:
"He's not lost, only gone on before!"

There are some we have heard sadly mutter,
After words with the Powers That Be,
"Ah, I would that my poor tongue could utter
The thoughts now arising in me!"

But some folk seem bound to be lucky,
The darlings of fortune from birth;
The rest carry on, steadfast, plucky,
And these are the salt of the earth.

A. B.

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

SOUTH AFRICA

Ore Loading

The Minister of Transport has approved the establishment of an inter-departmental committee to advise the railway management on the overall allocation of wagons to producers of coal, manganese, and chrome.

With only a limited number of trucks available for this traffic, with new producers entering the field and with demands for coal, chrome, and manganese constantly expanding, the railway administration has been called on in recent months not only to transport these commodities but also has had to decide which producers should be supplied with wagons and the extent of the assistance to be granted to each.

The committee, which will be appointed immediately, will consist of representatives of the railway administration and the Government departments of commerce and industries, and of mines. It will be concerned exclusively with the allocation of wagons to the producers of coal, chrome, and manganese. The appointment of this committee is a temporary measure which will operate until such time as the railways have an adequate supply of wagons at their disposal.

The purpose of setting up this committee is to secure the co-operation of all interests concerned and thus to promote the production of these minerals by assuring a regular flow of wagons to the mines. With its present limited resources the railway administration has to supply as far as possible the needs of all consignors and must ensure the most efficient use of all goods vehicles.

INDIA

Dispute between Government and Railwaymen

Indian railwaymen under the leadership of Mr. Jai Parkash Narian, President of the All-India Railwaymen's Federation, recently held out a threat to strike if some of the recommendations of the Central Pay Commission, to which railway employees attach great importance, were not implemented by the Government. In December, 1948, the Federation issued instructions that all railway unions should take a strike ballot to decide whether or not there should be a general strike in the event of Government's failure to meet the railwaymen's demands.

The Railway Minister, Mr. N. Gopalaswami Ayyangar, met Mr. Narain on January 3 and 4, and their discussions resulted in an understanding on the main points in dispute. Mr. Ayyangar was assisted by Mr. K. Santhanam, Minister of State for Transport & Railways, Mr. K. C. Bakhle, Chief Commissioner of Railways, Mr. I. S. Puri, Financial Commissioner, Messrs. K. P. Mushran and Ramaswami Ayyar, Directors of Establishment and Finance, respectively, of the Railway Board. Mr. Narain was supported by Messrs. R. A. Khedigikar, S. Guruswami and P. Alvares, Vice-President, General Secretary, and Assistant Secretary, respectively, of the All-India Railwaymen's Federation.

The understanding covers four main items, cost-of-living allowance, cheap grain shops, matters relating to the application of the Pay Commission's recommendations, and a machinery for the examination of the Pay Commission anomalies.

The Federation's demands in respect of cost-of-living allowance are that all railway workers should be paid a minimum flat rate of Rs. 35 as cost-of-living allowance, and those who prefer not to purchase foodgrains at concessional rates should be paid cost-of-living allowance of Rs. 60.

UNITED STATES

New Iron Ore Line in California

To give access from the Southern Pacific Railroad to the Eagle Mountain iron ore mine, and thus feed the Kaisar steel plant at Fontana in California, a new 52-mile single-line railway is being constructed. The estimated cost is $3,800,000, and special measures are being taken to provide against the cloudbursts prevalent in that area; temperatures of 125° are also to be reckoned with. The ruling grade against loaded ore trains is 1 in 100, but empties have to face 1 in 50 gradients. Earthwork required totalled some 2,000,000 cu. yd. in embankment and 600,000 cu. yd. in cutting, and ample waterways are being provided to cater for quick rainwater run-off.

ARGENTINA

Interruption in International Train Services

Heavy rains during the latter part of December and early January caused frequent interruptions in the international train services to Chile and Bolivia by all three routes. On the Transandine Railway, a bridge was completely washed away, and traffic was suspended pending temporary repairs. On the General Belgrano Railway, both the international route to Bolivia and the new Northern Transandine line to Chile were frequently obstructed at numerous points by washouts, and several minor accidents and derailments due to the same cause were recorded, although only in one case was a railway servant killed.

BRAZIL

New Lines

Some 221 km. of new lines have recently been handed over for traffic by the National Department of Railways. They include: 17 km., between Coroata and Barreirinha on the Pedreira branch line of the S. Luiz-Terezina Railway; 10 km., between Mumbaça and Demetrio Lemos on the Mossoró Railway; 56 km., between Itapipoca and Fazenda Nova on the link between Itapipoca and Sobral of the old Baturité and Sobral Railways; 30 km., between Albuquerque Né and Macacos, and 18 km., between Igacy and Lagoa do Rancho on the Great Western Railway; and 49 km., between Malhada das Pedras and Caçulé, and 41 km., between Monte Azul and Espinosa on the E.F. Léste Brasileiro.

Serious Damage Caused by Cloudburst

The end of 1947 and the beginning of the summer or rainy season brought disaster to a large area of Minas Geraes State served by the Leopoldina Railway. During the night of December 15-16, 1948, a cloudburst of extreme intensity inundated almost the whole of a large triangular area marked by Porto Novo, Leopoldina, and Santo Antonio de Padua, including the branch to Pirapetinga.

With the rivers Aventureiro and Angú and subsequently the rivers Pirapetinga and Pomba unable to accommodate the great flow of water, the towns of Leopoldina, Abaiba, Pirapetinga, and Volta Grande were flooded to a depth of many feet. Casualties were put at between two and three hundred. Losses in animals are said to be great, and crops and plantations over a large area have been destroyed. Salvage work has been made difficult by the lack of small floating craft in the vicinity and by the extensive damage done to roads.

The Leopoldina Railway, after suffering serious damage to its permanent way between Mello Barreto and Abaiba, and on the Pirapetinga branch line, continues interrupted between Volta Grande and Abaiba and on the branch line mentioned. The through passenger train service between Rio de Janeiro and the Manhuassú Line has been diverted temporarily *via* Tres Rios, Ligaçao, and Recreio.

URUGUAY

Transfer of Railways to State Completed

The last act of the transfer of the British-owned railways in Uruguay to the State took place on January 5, when the Executive Power promulgated the law previously approved by Congress. A noteworthy feature is that all officers and employees will remain at their respective posts until such time as an organic railway law can be drafted.

FRANCE

First Electric Locomotive for Paris—Lyons Line

The first electric locomotive of the batch which will operate on the Paris-Lyons main line was completed at the Nantes works of the Batignolles-Châtillon concern on January 20. The completion of the work on the Laroche-Migennes-Dijon section, 98¾ miles long, is envisaged for the end of this year, and the electrification of the 97-mile section between Paris and Laroche-Migennes should be finished by December, 1950. A year later, the whole of the Paris-Lyons line should be electrified. Particulars concerning the progress of this conversion were recorded in our November 12, 1948, issue.

The Batignolles-Châtillon concern also delivered recently 14 of 30 class 141-P steam locomotives ordered.

GERMANY

More Sleeping and Dining Cars

Improvements are also being made in the sleeping and dining car facilities. A large number of sleeping and dining cars is at present undergoing repairs so as to be available by May 15. These vehicles belong partly to the Reichsbahn-Schlafwagen-und Speisewagenbetrieb (Reichsbahn sleeping car and dining car operating concern), the successor to the Mitropa undertaking in the British zone, and partly to that organisation in the U.S. zone. Both organisations are expected to amalgamate shortly. The repaired coaches will be reserved for members of the occupation authorities, freeing an equal number of sleeping cars and dining cars for civilians. Regulations governing the use of sleeping cars by passengers not holding special permits will be eased.

Implications of the Milne Report on Transport in Ireland

The impact of findings and recommendations on the relationship between State and railways

*By Edmond A. Grace. A.C.A.**

EXAMINATION of the Report on Transport in Ireland† by Sir James Milne must have caused regret to many transport people that this distinguished authority did not avail himself of the opportunity to produce a fully reasoned statement of the primary forces at play in the sphere of road and rail economics. From such a general thesis his specific recommendations would have emerged with more force.

Most of the comments made in the newspapers concern the opinions of Sir James Milne on specific circumstances in Coras Iompair Eireann, as at autumn, 1948. In the report, 46 of a total of 78 pages (excluding appendices) deal with what Sir James Milne calls "a number of minor recommendations relating to Coras Iompair Eireann." Several of these recommendations are, however, of universal application and their implications are of major importance in rail-and-road economics.

The writer desires to attempt a statement outlining the operation of the fundamental factors in transport, and their cause and effect, relating them to Sir James Milne's comments and recommendations. The following statement is intended to be an objective discussion of general principles. Specific comments and recommendations are brought in only as illustrations.

Fair Conditions

In paragraphs 4 and 8, Sir James Milne says that the present state of transport in Ireland is largely due to conditions inequitable as between (*a*) railways, canals and their ancillary road services, and (*b*) other users of the road for commercial purposes, with particular reference to traders providing their own transport for their own goods. Further (paras. 47 and 53), the resulting lack of financial stability has been detrimental to the provision of an efficient transport system and (paras. 35 and 48) the Government must now provide fair conditions under which the public transport undertakings in future can operate.

How this position came about is not developed in the Report, but certain implications are unavoidable.

For instance, it is now recommended (para. 226) that in considering the closing down of branch lines the value to local public interests of these lines and the possible increased costs of roads must be taken into account. It follows naturally that one should ask why the State, when bringing the roads up to their present condition, and determining on the charges for use of the roads by commercial vehicles, did not take such considerations into account, in fairness to the railways.

Again, it is stated (para. 50) that the cost of subsidising basic industry should logically be borne by transport as a whole and not, as heretofore, by the railways.

How such subsidisation began and continued to the present time is not described, but it is implicit that development of the privately-owned lorry nullified the 19th century system of State control of railways. On the one hand, the State controlled the system of railway charging so as to benefit one essential industry at the expense of another less essential. On the other hand, it provided better class roads on a system of taxation which enabled traders to evade the levy compulsorily imposed by the railways on higher-class goods. The whole cost of the subsidy as a result has fallen on the remaining users and/or proprietors of the public transport undertakings.

The Monopoly Idea

Unfortunately, the legacy from early railway days of the monopoly idea is still so strong that it has impeded the reorientation of railway economics made necessary by the internal combustion engine. The railway monopoly went with the wind of the first motor-lorry. In so far as it enabled the private trader to operate independently, the new motive power was a vitally significant factor. It put him in a position to compare his costs with the amount levied on his goods for the upkeep of a system of public transport operating under conditions which the State—and he—had made archaic.

Under the genuine monopoly conditions of the last century, the railways as a whole constituted virtually a department of State. They provided a national service. The freedom given to the management in running their business, subject only to over-riding control, placed them in the position of a State service farmed out to private enterprise and which was enabled to make a limited profit.

Collection of railway revenue raised all the problems inherent in State taxation. The railways raised the revenue required to cover their expenditure and afford a reasonable profit, by schemes of differential rates calculated to collect from transport users in proportion to their ability to pay, having regard to broad national considerations. The principle was summed up in "what the traffic will bear," a principle closely analogous to that which guides a finance minister when he is determining on the introduction of a new or additional duty which, if too severe, may produce less revenue than a lighter tax, and further, may injure some industry which is essential to the country's welfare.

Evading the Levy

With the arrival of a small independent unit of transport, at a price within easy reach of the vast majority of traders and capable of being operated at a cost almost directly related to the size of the task, the old railway economy came to an end. A system of differential levies on the classes of goods could not continue successfully, when it could be evaded at all points at which it compared unfavourably with the easily available alternative.

The railways no longer held a monopoly against even small traders. Yet the State and the railways continued substantially in the same relations as had existed in the earlier era. Regulation of railways was maintained as vigorously as before; but while they were forbidden to give undue preference by way of rates to one trader as against another, the trader himself was permitted all the advantages over his rival that he could secure by full use of the nation's roadways. The original objectives of State intervention became unattainable by the original methods, and the nation's total transport costs increased.

The position of railways is that they offer to the public a series of services, the separate total cost of any one of which cannot be determined significantly. Whether any one service is profitable or otherwise, therefore, cannot be determined either. The individual rates and charges are not, and cannot be, significantly related to cost.

Since many of the freight charges are now competitive, however, they must be nearly related to the market price. This applies even though the market is "imperfect" in the sense that public transport is substantially in the hands of one undertaking and traders are free to provide transport services of a similar kind for themselves, by carrying their own goods in their own vehicles.

Railway rates and charges may be divided accordingly into two main categories:—

(1) Rates for services which can be reproduced by traders with facility, and which must therefore approximate to the valuation placed by the majority of traders on such services.

(2) Rates and charges for services which cannot be reproduced by traders and which are based on the old principles of rate-fixing.

Achieving Self-Support

Sir James Milne's requirement (para. 7) that public transport undertakings should be financially self-supporting, now may be examined fairly on the method shown hereunder. The axiom which introduces each section is either stated by Sir James Milne, or is admissible on his statements.

(*a*) *The undertaking has the obligation first of ensuring that it uses the most efficient methods of operation, so far as these are permitted.*

Sir James Milne has made many recommendations calculated to secure more efficient operation, but these do not affect the general line of argument pursued in this article. The only point of importance in this respect is the desirability of ensuring that disabilities of a passing nature arising from say, the war, should not be allowed to cloud the principal issues. Comparison between the costs of road and rail operating methods must be based on normal circumstances, and Sir James mentions this, for instance, in discussing branch lines (para. 230) where he refers to present-day costs as abnormal.

The qualification of the axiom by "so far as these are permitted" relates to the cases where public interest precludes the undertaking from making its own decision as to whether rail or road transport shall be used.

Achievement of maximum efficiency means, *inter alia*, that if the service provided by a railway can be effected more cheaply by road, then, so far as the transport undertaking responsible is concerned, the railway must be abandoned and the road used. If this rule be applied in all cases, the only railway lines operated will be those which have sufficient density of traffic to justify them on any comparison with road haulage.

With efficient operation, concentration of traffic and a rational scheme of rates, road haulage must pay. It follows that where the railway, with rates based on the road rates, as considered hereafter,

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is able to carry the traffic more economically, then the railway itself must be profitable also, and even more profitable, thus achieving the objective.

Competitive Rates

(b) For traffic which is in the competitive field, the public undertaking should not quote more than competitive rates, whatever its financial position, since to do so can only mean eventual loss of traffic and revenue.

In several places in the Report (*e.g.*, 49, 50) Sir James Milne refers to the necessity for revision of rates and schedules, so as to arrive at a rate approximating to the cost to the trader of providing his own transport. He does not indicate how this is to be done, except to refer to the desirability of agreed charges, and the presumption is that the matter is best left to the undertakings themselves for decision.

Sir James Milne has not extended his advocacy of this fundamental change in rating methods previously accepted, and which legislation would be required to alter. However, he shows clearly the vital point at which railways are losing the valuable high-grade traffics. As he indicates, two prices cannot continue for long in one market—even where the market is imperfect.

The question then arises: Will competitive rates attract sufficient business to make public transport pay?

There can be no doubt that increased revenue will be secured from a competitive rates structure. The extent of the traffic which may be regained is speculative; but as rates below the competitive figures are at present applied to a large part of the traffic which railways hold and can expect to retain (no better service being on offer to the consignors), bringing those rates up to the competitive figures will produce increased revenue.

In speculating on the old traffics which may be regained, and the new traffics secured, by fixing competitive rates, one can only hold Sir James Milne to the statement (para. 26) that "an increase" in traffic may be expected if his recommendations are accepted. But figures adduced in his Report provide a striking indication of the prospects. Thus, the gross receipts of C.I.E. on road freight operations for 1948 are estimated (page 48) at approximately £1 million for 1948. The number of vehicles over 1-ton capacity licensed by private traders for haulage of their own goods (page 22) was almost exactly seventeen times the total of the vehicles operated by C.I.E.

If the total capacity of the privately-owned vehicles is in the same proportion, their potential earning power then must be of the order of £17 million. Against this the total freight traffic, road and rail, of Ireland's largest public transport system is worth less than £5 million. In addition to the vehicles of traders, there are almost five times more vehicles licensed by private hauliers operating for reward, than by all the public undertakings.

The figures offer such wide margins that the conclusions are inescapable. If Ireland's fleet of private lorries is not being grossly under-employed, the scope for public transport in freight movement is very considerable.

Considering this scope, it is fair to question the wisdom of imposing much restriction on the public undertaking's development of road freight services. However strongly one may support Sir James Milne's general dictum that as much traffic as possible should be carried by rail ("in the national interest") that figure of £17 million is exceedingly substantial. Taken as only a rough indication of the order of the maximum potential value of traffic available to the public undertaking, it suggests that there may be enough traffic to warrant extension—in ordered relation—of both rail and road freight services by the public undertaking.

Traffic for road vehicles which might be secured by public transport could be lost if too insistent a policy in favour of rail were pursued. Further, traffic may be lost to rail. As an example, if a trader provides his own vehicle for a portion of his transport requirements which is not adequately met by the public undertaking he may, to secure the best value for it, use it for long-distance trips whenever the vehicle can be spared. Thus, goods which otherwise would be rail-borne may move by road instead.

It is not by any means certain that sufficient traffic could be secured even by competitive rates to make public transport self-supporting, and accordingly it is necessary to consider further means of closing the gap between income and expenditure.

(c) If, having achieved optimum efficiency, and quoted competitive rates to hold and to regain competitive traffic, the undertaking still has a deficit, it must endeavour to cover this by increasing its non-competitive rates, but cannot do so above the point where business may be so much discouraged as to offset the benefit of the increased rate.

Train and bus passenger fares and charges are non-competitive to a fairly high degree. Extended use of the private motor-car may result, however, from fares increases, and it is to be noted that registrations of private cars in Ireland rose sharply to over 52,000 in 1948. The car, the bicycle, and the horse and trap, represent incalculable yet not quite insignificant factors in passenger traffic, and the volume of this traffic reacts sensitively to changes in fares and quality of service. Sir James Milne holds that present fares can bear increases which would give substantial extra revenue. It is none the less clear from his report that these increases would be insufficient to eliminate the general deficit and he looks further afield for other financial reliefs.

(d) If, having achieved a reasonable standard of efficiency in operating, given competitive rates when necessary and raised the non-competitive to the practical limit, the undertaking does not pay, the only possible conclusion is that it is labouring under disabilities which do not apply to its competitors. The deficit represents the minimum financial weight of these disabilities.

Sir James Milne says (para. 10) that the inequitable conditions, under which the various forms of transport operate at present constitute "a severe handicap" on public undertakings.

He indicates, but does not illustrate, that subsidisation of basic traffics means inflation of railway charges by an expense which is not inherent in railway working, and which results in loss of railway business. He points out also that there is an inequitable incidence of track costs as between rail and road operators, and recommends that these costs be equalised between them. Heretofore, as he states, the burden of these disabilities, as to track costs and subsidisation, have been borne exclusively by the railway.

It follows that where the public undertaking has been unable to increase its rates sufficiently to discharge this burden, the subsidies have been paid from the capital of the undertaking. As the subsidies are and have been a matter of national interest, it is implicit that they should be provided by general tax or levy; and it is one of the canons of taxation that the incidence of tax should be as equal as possible between all citizens, having regard to their ability to pay.

Any competitive transport undertaking should be permitted to use the most economic means available to its competitors to carry out its business and if this should not be in the State's interest, the undertaking should be compensated by the State accordingly. If branch services, for instance, can be operated more cheaply by road than rail, the railway line should be closed.

As the alternative, the difference in cost should be made up to the undertaking or shared equitably with its competitors. In this connection, Sir James Milne has recognised (para. 31) that branch railways may be uneconomic, but has said that where the public interest requires it, they should be retained. He requires that track costs, which must include the relatively excessive costs of branch lines, shall be spread between the various forms of transport.

The benefit to the railway by closing a branch line may be accompanied, as Sir James Milne foresees, by damage to the alternative roads, and therefore to the whole body of road-using transport operators. Yet the railways, if they are not to be saddled with the cost of providing a benefit to the community for which their competitors are not liable, or of refraining from imposing that last straw which they are as well entitled as their co-partners in transport to impose, should be permitted to go on the roads if they decide that this is more economic for them. The additional costs which are involved will be borne by central and local authorities and by transport users, with the railways paying no more than their competitors.

By creation of a Central Highways Authority, Sir James Milne would effect this redistribution of marginal costs without closing branch lines whose retention would serve the public interest.

(e) If the traffic of basic industries should be subsidised in the national interest, the cost should be borne by all forms of transport, and not by the railways alone.

Sir James Milne indicates (para. 50) that the cost of such subsidy should no longer be borne by the public undertaking exclusively, but by transport as a whole, as was the intention when the railway classification was first constructed. In this connection, he points out how illogical it is that one type of transport should be required indirectly to bear the whole burden of subsidy of basic traffics. The Central Highways Authority appears to be his answer to this problem also.

This part of the report could have been elaborated to show that the State, by providing good roads open to all on a licensing system which is based on vehicle capacity, at the same time demands a railway classification which is based on ability to pay—and which at the higher rates has forced traders on to the road. That burden of illogical discrimination has been borne by the railways over a period of 30 years.

The connection between rail rates and licensing and track costs, although it may be deduced, is not brought out in the

report, where these matters are dealt with separately.

(f) Conditions of employment should not be a factor, if competition is to be fair as between all operators.

It is recommended in the Report (para. 54) that licensing of any commercial road vehicle should be conditional on payment of fair wages and on conditions of employment not less favourable than those offered by the public operator, as well as on maintenance of vehicles in sound condition.

(g) Subsidies may properly be paid by the public undertaking after covering expenditure and producing a reasonable return on capital.

This possibility is not dealt with by Sir James Milne, but it does appear to follow logically from the general argument. Admittedly, it is remote, in present circumstances. The Report says (para. 476) that after allowing for "some" increase in traffic, for increases in passenger fares, and for economies in maintenance and operation, the present C.I.E. deficit will be converted in the next few years, into an amount £220,000 short of what is required to meet the debenture interest. This is the best result foreseen for the near future even after re-distributing the burden of subsidy in respect of low-density branch lines and for basic traffics.

To sum up, the statutory requirement of railways to give subsidies to essential industries sending low value goods for movement, and the cost of maintaining branch railways in the public interest, constitute the first causes of the financial difficulties. During the past 30 years these financial difficulties have made it impossible for railways to achieve that financial stability which, as Sir James Milne has pointed out, is essential for efficient management of public transport.

The natural refusal by the trading and manufacturing community to contribute to such subsidies, by paying railway rates on their high-grade goods, has been made possible by the State's system of taxation of road users.

The effect has been that railway stockholders, and such consignors of high-grade goods as have continued to use railway services, have been compelled to bear alone the cost of these subsidies. When net revenue diminished and disappeared, the cost of the subsidies for low-grade traffics and branch railway services had to be met out of the capital of the private stockholders.

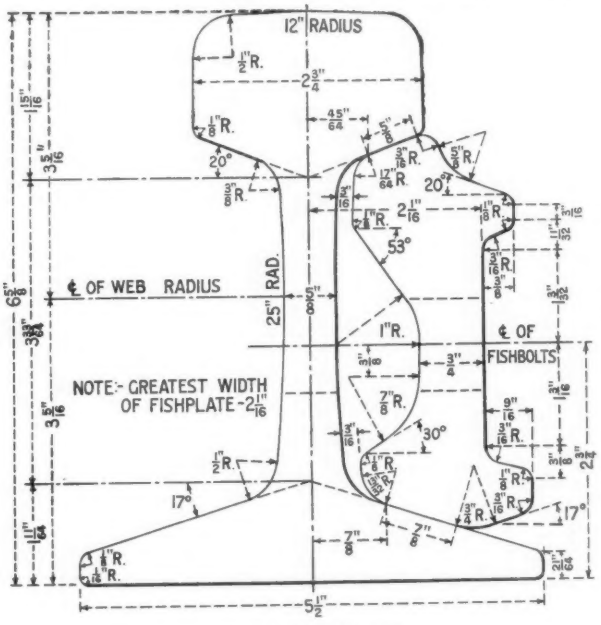
The New Standard British Rail

Flat-bottom rail to replace bull-head as standard, adopting two new F.B. sections

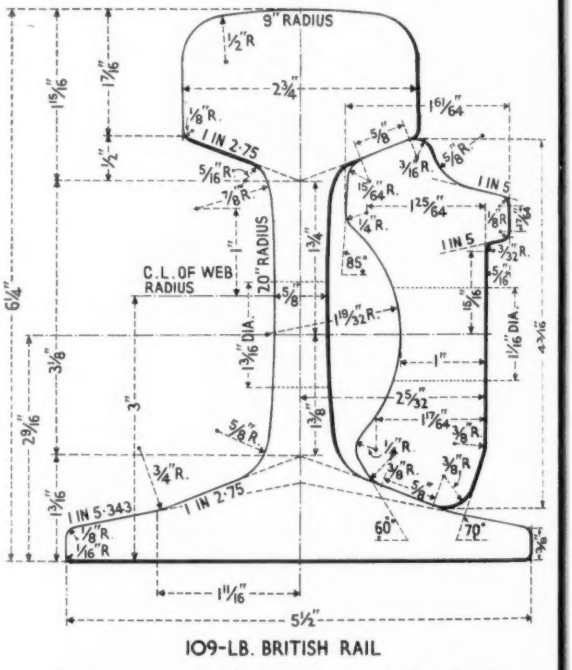
THE nationalised British Railways, excluding the London Transport lines, are to adopt as standard the flat-bottom rail instead of the traditional bull-head type. The announcement, which was made last week by the Railway Executive, with the approval of the British Transport Commission, is the culmination of exhaustive comparative tests under traffic conditions which were begun by the former main-line railway companies as long ago as 1936, and which have formed the subject of various articles in our columns.

It will be recalled that the initial experiments were conducted with the 110-lb. F.B. British Standard rail, and with various types of baseplate and fastenings. As this had been designed primarily for overseas use, secured by spikes direct to the sleepers, and there was no intention of adopting this form in Great Britain, an F.B. rail of 113 lb., with narrower base (5½ in. compared with 6 in.) intended exclusively for use with baseplates, and with many improved characteristics, was evolved by a committee of the four former main-line railways, of London Transport, and of the Railmakers' Association. It was described and illustrated in *The Railway Gazette* of July 18, 1947, page 68. This has since been used extensively in the experiments of the former L.M.S.R., G.W.R., and S.R., but the L.N.E.R. elected to continue with the 110-lb. section, of course using baseplates for the intensive traffic conditions of British railways.

Neither of these sections has been adopted as standard, however, and two new types have been evolved but not yet rolled. These are respectively of 109 lb. and 98 lb., and dimensioned sections are reproduced. As explained in an editorial article in this issue, the 109-lb. section will be the normal for main-lines and others carrying intensive traffic at high maximum speeds. It will replace eventually the present standard 95-lb. B.H. rail on some 22,000 track miles. The 98-lb. F.B. is to supersede the present 85-lb. B.H. section for secondary lines.



The section designed in 1945 by a committee of the main-line railways



The new standard main-line rail for British Railways

The heavier of the two new standard types of F.B. rail will be 59 per cent. stronger vertically, and 136 per cent. stronger laterally, than the 95-lb. B.H. type hitherto standard. Because F.B. rails with baseplates spread the load more evenly, and keep better alignment, travelling over this type of track is expected to be smoother and quieter. With the lighter rail (98 lb.), designed for slower speeds and often lighter axle loads, the vertical percentage increase of strength over the 85-lb. B.H. is 40, but the lateral increase, due largely to the retention of the

standard 5½-in. base, is no less than 156 per cent., which is in excess of technical needs but results from the obvious desire to use the same baseplate with both weights of F.B. section, as new 85-lb. and worn 109-lb. rails will serve together in secondary lines. The principal characteristics of the new rail sections and their fishplates are given on the drawings and in the accompanying tables.

TABLE I—PROPERTIES OF THE NEW-TYPE 109-LB. F.B. RAIL IN COMPARISON WITH THE 95-LB. B.H. RAIL

	Proposed 109-lb. F.B. rail	95-lb. B.H. R.B.S.	Increase per cent.
Sectional area (sq. in.)	10·71	9·28	15·4
Weight (lb.)	109·1	94·54	15·4
Moment of inertia XX	55·9	35·1	59·3
Moment of inertia YY	9·67	4·09	136·2
Section modulus (top)	16·89	13·12	28·7
Section modulus (bottom)	19·02	11·53	65·0

TABLE II—PROPERTIES OF THE NEW-TYPE FISHPLATE FOR 109-LB. F.B. RAIL IN COMPARISON WITH THE FISHPLATE FOR 95-LB B.H. RAIL

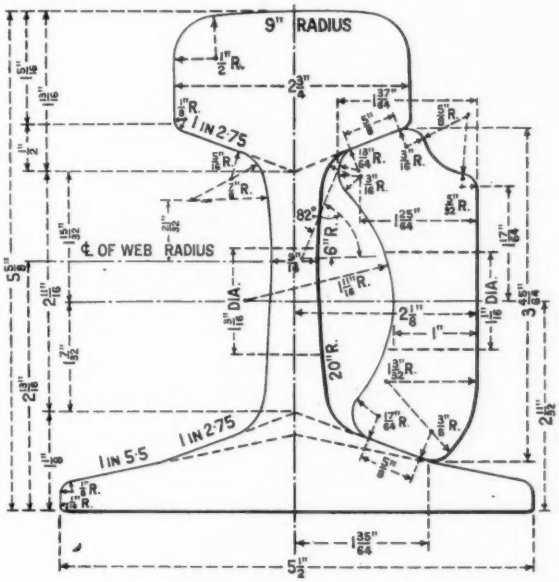
	Proposed 109-lb. F.B. rail	95-lb. B.H.	Increase per cent.
Length of fishplate (in.)	20	18	11·1
Sectional area (each) (sq. in.)	5·04	3·35	50·5
Moment of inertia XX (pair)	13·74	5·76	138·6
Moment of inertia YY (each)	0·85	0·30	183
Section modulus, top (pair)	6·65	3·29	102
Section modulus, bottom (pair)	6·46	3·29	96·4
Weight of fishplates (holed), (pair) (lb.)	54·58	32·25	69·2

TABLE III—PROPERTIES OF THE NEW TYPE 98-LB. F.B. RAIL IN COMPARISON WITH THE 85-LB. B.H. RAIL

	Proposed 98-lb. F.B. rail	85-lb. B.H. rail	Increase per cent.
Sectional area (sq. in.)	9·61	8·32	15·6
Weight per yard (lb.)	97·9	84·71	15·6
Moment of inertia XX	40·8	29·1	40·2
Moment of inertia YY	8·78	3·43	156
Section modulus (top)	13·77	11·57	19
Section modulus (bottom)	15·30	9·85	55·3

TABLE IV—PROPERTIES OF THE NEW TYPE FISHPLATE FOR 98-LB. F.B. RAIL IN COMPARISON WITH THE FISHPLATE FOR 85-LB. B.H. RAIL

	Proposed 98-lb. F.B. rail	85-lb. B.H. rail	Increase per cent.
Length of fishplate (in.)	20	18	11·1
Sectional area (each) (sq. in.)	4·13	3·35	23·3
Moment of inertia XX (pair)	8·76	5·76	52·2
Moment of inertia YY (each)	0·57	0·30	90
Section modulus, top (pair)	4·72	3·29	43·5
Section modulus, bottom (pair)	4·73	3·29	43·8
Weight of fishplates (holed), (pair) (lb.)	44·29	32·25	37·3



98-LB. BRITISH RAIL

New standard rail section adopted by British Railways for secondary line

A mile of track laid with F.B. rails will require about 16,900 fewer components (including fastenings, etc.) than a mile of B.H. track, and the annual saving in maintenance is expected to offset the higher initial cost. The life of F.B. rail is calculated at two years more than that of B.H., but the effective use of this is dependent upon a readjustment of relaying programmes, as the relative and proportionate life of rails and sleepers constitutes an important feature of track-laying policy. The F.B. rails are to be secured to the sleepers by simple fastenings, principally of spring steel types.

At the beginning of 1948, 260 miles of British track had already been laid with flat-bottom rail, under the auspices of the former main-line companies. A further 298 miles of relaying with these rails, of various weights, was undertaken during 1948. The track renewal programme of British Railways for 1949 involves laying new rails over 1,484 miles of track, of which 463 miles will be relaid with flat-bottom track.

To avoid interference with steel production, the new standard F.B. rails will be introduced gradually, but an increasing proportion will be laid every year. Some quantities of the bull-head type will also be obtained for a number of years to come, to cover re-railing without new sleepers or fastenings, and the replacement of isolated points or crossings.

British Railways Liveries

The Railway Executive has announced that, following the series of experiments last year, on which the public was invited to give its opinion, it has been arranged gradually, as circumstances permit, to adopt liveries for locomotives and coaches, as follow:—

STEAM LOCOMOTIVES

Heavy-Duty Express Passenger Locomotives

Blue, with black and white lining.

Selected Passenger Locomotives

Dark green with black and orange lining.

Other Passenger and Mixed-Traffic Locomotives

Black with red, cream, and grey lining.

Freight Locomotives

Black unlined.

PASSENGER COACHES

Main-Line Corridor Coaches

Crimson lake with cream panels.

Coaches for Local Steam Services, and Passenger Train Vans

Crimson lake.

Multiple-Unit Electric Coaches

Green.

SIXTEENTH ENGINEERING & MARINE EXHIBITION.—Sir John Anderson has accepted the office of Honorary President of the Engineering & Marine Exhibition which will open in London on August 25 and remain open until September 10. The whole of Olympia has been reserved for the 1949 exhibition, and the additional use this year of the Empire Hall will result in a 20 per cent. increase in space as compared with 1947, which will enable 600 engineering firms to display their goods. Except for the interruptions caused by two world wars, this exhibition has been held every other year since 1906, and it represents the largest exhibition in the world devoted solely to the display of engineering products. More than 140,000 visitors from all parts of the world attended in 1947.

PLAQUES PRESENTED TO "ROYAL SCOT" CLASS LOCOMOTIVE.—At Glasgow Central Station on Saturday, January 22, with military ceremonial provided by a guard of honour from the Regiment, Sir Hector McNeil, Lord Provost of Glasgow, unveiled on British Railways locomotive No. 46121, plaques bearing the regimental crests presented on behalf of the Regiment by the Officer Commanding, Highland Light Infantry (The City of Glasgow Regiment). Mr. T. F. Cameron, Chief Regional Officer, Scottish Region, presided, and the guests included: Sir Ian Bolton, Part-time Member, British Transport Commission; Major-General R. E. Urquhart, Commander, Lowland District (a former officer of the Highland Light Infantry); Major-General Sir A. J. McCulloch; Mr. T. H. Moffat, Deputy Chief Regional Officer, Scottish Region. After the station ceremony, Sir Ian Bolton welcomed the guests at a function held in the Central Station Hotel, at which Mr. T. F. Cameron presented to Major-General Urquhart a framed photograph of No. 46121. The locomotive, which bears the name *Highland Light Infantry (The City of Glasgow Regiment)*, is one of the 4-6-0 "Royal Scot" class.

"If Trains are Delayed"

Instruction booklet for Pennsylvania Railroad staff

THE Pennsylvania Railroad has issued an illustrated booklet, entitled "If Trains Are Delayed," to instruct its staff, particularly conductors, trainmen, and station personnel, in the art of keeping their passengers informed in the event of delays. The booklet reads as follows:—

Passengers are our customers. They help make our jobs. We ought to do everything in our power, not only to make their journeys as enjoyable as possible, but to avoid needless annoyances which leave behind them unpleasant memories of our railroad. A frequent cause of irritation to our customers is the failure, when train delays occur, to give prompt information about the cause of the delay, how long it will probably last and, if it is likely to be prolonged, then advice as to how passengers may reach their destinations by other means of travel.

A Good Rule for Building Friendship

Standing instructions to supply such information, as promptly as circumstances permit, have been in effect for a long time. Many of our conductors and trainmen have always followed this good rule faithfully, realising how important it is in helping to keep friendly relations with the customers of the railroad on which we make our living. But, unfortunately, others have neglected the rule, with the result that our relations with our customers have suffered. Lack of information about the cause and probable length of delays gives passengers the impression that we don't care very much what happens to them or their plans. They begin to think about travelling some other way next time. That's bad for all of us.

The great majority of travellers are reasonable people. It is surprising how gratefully a friendly word of explanation about a delay will be received by them. They will be understanding and appreciative.

Next to Getting the Wheels Moving

It is, of course, true that when something happens to delay a train, your first and foremost concern—as conductor, trainman, block operator, train despatcher, train master, or any other employee in the picture—is to do whatever you can to help get the wheels turning again. But your next duty is to do your best to set our customers' minds at ease, and end their suspense, by telling them as quickly as possible why they are delayed and how long it is likely to last. This requires close co-operation between all employees involved, whether on the train, or in a tower, or in the despatcher's or train master's office.

If for any reason adequate information cannot soon be gotten, then a great deal of good will be done by assuring the passengers that every effort is being made to obtain it, and that word will be given to them at the earliest possible moment. You may be sure that this will go a long way in softening the disappointment caused by the actual delay itself.

How Different Cases May Be Handled

Let's take a practical example or two. Suppose a freight train has a car failure. It has to stop, and ties up a passenger train which pulls up behind it 15 or 20 minutes later. Meanwhile, the block operator, despatcher and train master have been on their jobs. When the passenger conductor goes to the trackside telephone, or the train telephone on his engine, the block operator is able to give him full information. The conductor passes the information on to his trainmen and he and they go through the cars announcing in each car, in a clear pleasant voice, something like this:

"We have been stopped because a freight train ahead is setting off a defective car to avoid an accident. The work is being done as fast as possible, but we will be delayed about — minutes more. We are sorry that this has happened and hope your plans will not be seriously affected."

Suppose something goes wrong with a passenger train's engine. The crew can't make temporary repairs and say they will have to have another engine. The conductor goes to the nearest telephone to ask for one. As soon as he can find out how long it will take to get the new engine, the conductor and trainmen can pass this word along to the passengers:

"We are having engine trouble and have asked for another engine from ———. It will be here in about — minutes and then we'll soon be moving again. We are sorry this has happened and hope your plans will not be seriously affected."

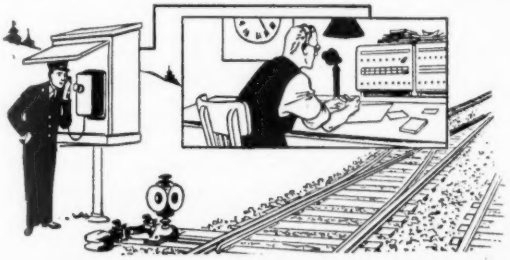
Or suppose there has been an accident to another train ahead, involving so long a delay that a detour is necessary. As soon as the facts have been obtained, the conductor and trainmen should make announcements, like this, in each car:

"A train ahead of us has been derailed and the tracks are tied up. To avoid an indefinite delay, we are going to detour about — miles, *via* ———. We will probably be — hours late at ——— (destination city). We are sorry this has happened, but everything possible is being done to keep down the delay."

Where No Rail Detour is Possible

It may even be necessary to terminate a train short of its destination because some turmoil of Nature, such as a flood or landslide, has made the railroad impassable, with no reasonable rail detour open. Arrangements are made for buses to bridge the gap to the next point where a train can be made available. While this is being done, conductors or trainmen should make

"They begin to think of travelling some other way next time"



"When the passenger conductor goes to the trackside telephone the block operator is able to give him full information"

announcements like this: "The railroad is blocked by a landslide, and there is no way to detour the train around the obstruction. So we are arranging for buses to take you to ——— where another train will be ready to continue the trip. You will, of course, pay no fare on the buses, and we will advise you as soon as we can learn when they will be here. You may be sure that everything possible is being done to get you through as quickly as we can."

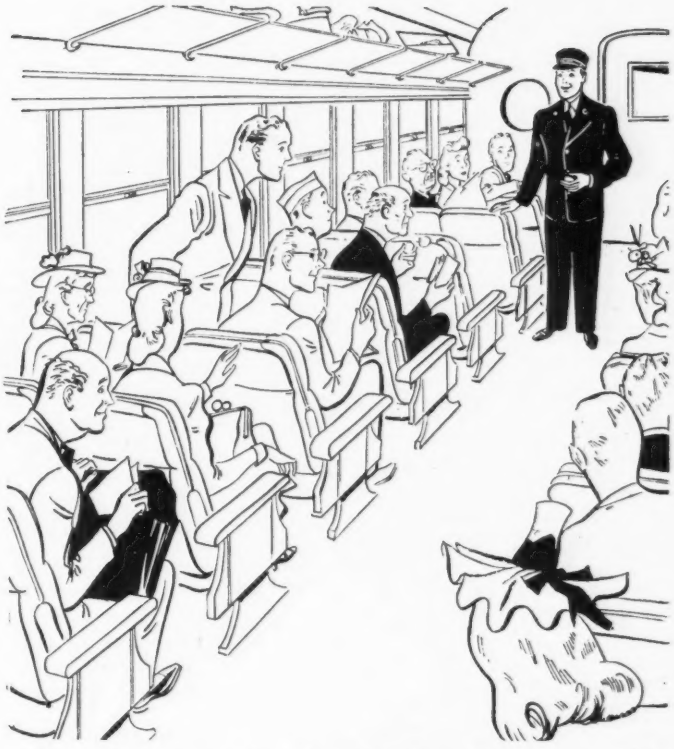
When delays occur during the night, passengers who are sleeping should not be disturbed unless for safety reasons. They can be told the story in the morning, but the porters should be kept continuously advised so that they can answer questions which may be put to them by any passengers who may become aware that something unusual has happened.

Sometimes, when it is known that delays will be prolonged, or will involve lengthy detours, passengers may decide to terminate their rail journeys and seek other means of transportation. In such cases, they should be given every practicable assistance by railroad people, to lessen their inconvenience as much as possible.

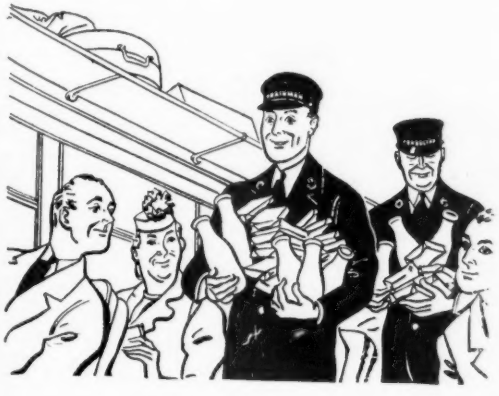
Other Ways in Which to be Helpful

Where people are waiting in stations for trains affected by delays, the station forces should keep themselves informed as to the situation and what is being done to remedy it.

They should pass this information on to the public by clearly worded announcements and bulletin board notices. Where lengthy delays extend into regular meal times, and dining cars are not at hand or their food stocks have run out, train crews and station employees should resort to whatever means are available to provide food which will be at least satisfying. The railroad will, of course, take care of the expense. Train crews should also give willing assistance, in any way they can, to delayed passengers in getting off telegrams to friends, relatives or business associates.



"The conductor passes the information on to his trainmen and he and they go through the cars announcing the cause of the delay"



"Train crews and station employees should resort to whatever means are available to provide food. The railroad will of course take care of the expense"

A Possible Misunderstanding Corrected

It may be that some conductors and trainmen have felt that, in spite of the standing instructions already mentioned, information about trouble on the railroad should be given sparingly, and perhaps only when it is insisted upon; also, that they may be subject to criticism for freely giving out such information, even though known to be correct.

This leaflet is complete assurance that such ideas are wholly without foundation, and that conductors and trainmen, upon receiving official information from train despatchers, train-masters or others, should pass it along to passengers as they have received it. This will bring, not censure, but appreciation.

Our customers are already sold on the idea that the railroad is the safest way to travel. Most of them also think that it is the most dependable way. But beyond that it is up to us to show them that it is the all-round best way. And one of the surest means of doing this is to prove to them that the Pennsylvania Railroad people are as friendly and considerate as can be found anywhere in the transportation business today.

Let's get together on this. It won't be difficult to do. The friendly, pleasant and helpful way is always easier, and our customers will be grateful and satisfied. They will be coming back to us again and again. And that will be good for all of us. It will be the best job insurance we can possibly build up.

AGREED CHARGES.—Applications for the approval of 108 further agreed charges under the provisions of section 37 of the Road & Rail Traffic Act, 1933, have been lodged with the Transport Tribunal. Notices of objection must be filed on or before February 15 next.

RECLAMATION OF WASTE AND OILS ON THE SOUTH AFRICAN RAILWAYS.—Of the axle oil used by the South African Railways, 204,746 gal. of reclaimed oil were put back into service in 1948, representing 25 per cent. of the oil used. Because of the world shortage of fats, the price of grease has increased from 7d. per lb. to 1s. 6d. per lb. Reclamation plants are operated at nine carriage and wagon depots in the Union and South-West Africa and at two mechanical depots. They saved £100,000 last year in the bill for oil, grease, and impregnated woollen waste used in the lubrication of engines and rolling stock. The total amount of waste used during the year exceeded 500 tons. In the case of woollen waste the reclamation process consists of the removal of all dirt and a general cleansing operation by washing and mangling. This makes the waste suitable for repacking. The extent to which reclamation has enabled the railways to reduce orders for lubricants is shown in the figures for the past year: of 1,050,342 lb. of woollen waste used, only 414,936 lb. represented new waste. In addition to the conservation of scarce materials, the reclamation has taught a sense of economy to the staff with a resultant increase in efficiency. The total annual cost of operating the reclamation plants has been estimated by the S.A.R. at approximately £7,000.

A Railway Lifeline Across Africa—2

Links in the Belgian Congo will complete the chain of trans-African communication

By G. V. O. Bulkeley, C.B.E., M.I.Mech.E.
Formerly Port Manager, Mombasa, and General Manager, Nigerian Railway

IN the July 23, 1948, issue three possible links for an African coast-to-coast railway were discussed. Now it has been announced that one of them, between Bukama and Kabalo in the Congo, is being surveyed. Details on the accompanying map have been supplied by M. Odon Jadot, managing director of the Cie. du Chemin de fer du Bas-Congo au Katanga. They depict new railway links which that company proposes to construct in the south of the Belgian Congo, with the dual object of extending railway facilities in that territory and contributing to an all-rail trans-Africa link between the Atlantic and Indian Oceans, for which project M. Jadot is a strong protagonist.

It is understood that the necessary surveys and financial arrangements are already in hand and that a part of the work can begin at once, while another requires the sanction of the Belgian Colonial Minister.

It will be seen that the essential rail link between Bukama and Kabalo (225 miles) is to be effected by taking off from Kamina on the existing Bukama-Port Francqui section. As conditions on the Lualaba River between Bukama and Kabalo are unsatisfactory for river steamers, the new rail link will replace them.

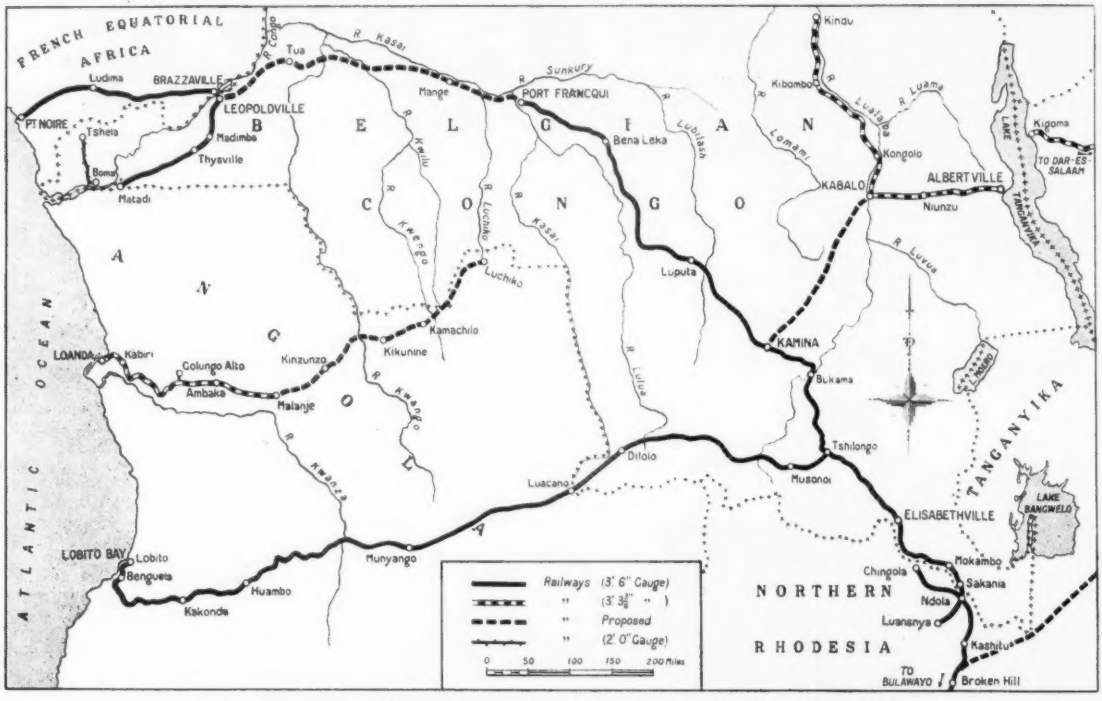
When this link is completed, trains will be able to run direct between Lobito Bay and Albertville on Lake Tanganyika. A joint provision of train ferries by the Congo and the East African territories, together with the foreseen conversion of the Tanganyika Railway from metre to 3-ft. 6-in. gauge, would provide a through Atlantic-Indian Ocean railway route across Central Africa.

The other proposed Congo rail link shown on the map is between Leopoldville and Port Francqui (541 miles) and will afford yet another section of trans-African railway from the port of Matadi.

M. Jadot also advises that his company intends to link up river sections now entirely served by steamers and extend the resulting south-north railway from Kabala to Stanleyville. It would seem that the vision of the late Sir Christian Felling is to become a reality and that the Kenya-Uganda line eventually will extend as a 3-ft. 6-in. gauge track from Kampala to the Congo border, link up there with a line to Stanleyville and form yet another trans-African rail route.

It is clear that considerable railway extensions are about to be made in Central Africa. The recently announced intention, reported in *The Railway Gazette* of December 10 and 24, to connect the 3-ft. 6-in. Rhodesian Railway at Broken Hill with the East African seaports (at present served by metre-gauge lines) will bring to fruition a project which had its inception when the late Sir Sidney Henn was reporting on Tanganyika transport and it was argued that the mountainous country north of Lake Nyasa might have to be avoided by carrying the track through Manda and skirting the lake end.

The branch line which, it is intended, shall connect with the new East African port of Mikindani will not only give the Rhodesias an all-British port served by 3-ft. 6-in. gauge lines, but also provide one trans-African 3-ft. 6-in. all-rail route between Lobito Bay and Mikindani, *via* Tshilongo and Broken Hill.



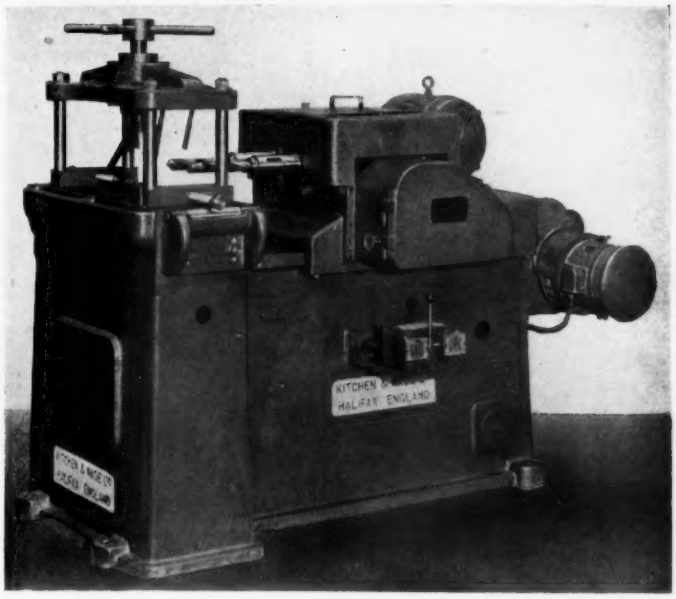
Existing and proposed railways in the Belgian Congo and adjoining territories

In any future war, the submarine menace will be even more deadly than it was during the late war. Should a war involve all the Western European nations in the colonial territories on the Indian Ocean—and the Mediterranean again become impassable—it would be essential to minimise the sea mileage of supply ships. Two or three alternative all-rail routes across Central Africa would provide effective land communication.

NEW LINES IN TANGANYIKA.—Mr. E. R. E. Surridge, Acting Governor of Tankanyika, interviewed after his return from the Transport Conference in London, which was connected primarily with East African railways and harbour construction and expansion, stated that there was no truth in the rumours current in Kongwa and elsewhere in Tanganyika that work on the branch line from the central line to the Uruwira lead mine at Mpanda was being discontinued. Mr. Surridge said: "Work is proceeding according to schedule." He also stated that in regard to railway construction in Tanganyika, labour questions as affecting work in the Southern Province were discussed in London with representatives of the Overseas Food Corporation and other bodies and further discussions would be taking place shortly in Dar-Es-Salaam. Mr. Surridge expressed his full agreement with the conference conclusion that the link between the Tanganyika central line and Mombasa "was of the greatest importance."

New Two-Spindle Rail-Drilling Machine

Traverse and motor controlled by single lever with drive and feed mechanism contained in drill slide



THE firm of Kitchen & Wade Limited, Halifax, has introduced a two-spindle rail-drilling machine of new design. It is claimed that simple and effortless control is obtained by a single lever governing the drive, feed, and the power-rapid-traverse motions.

The drill slide contains the whole of the drive and feed mechanism, including the 7½-h.p. electric-drive motor, forming a compact self-contained unit. The two horizontal spindles, provided with adjustable sockets enabling varying-length drills to be used, are adjustable for centres between 3½ in. minimum and 11 in. maximum, fine adjustment being provided. A range of speeds and feeds suitable for ¼ in. to 1¼ in. holes in steel is provided, changes being effected by pick-off gears readily accessible through a hinged door mounted on the front of the slide.

Method of Operation

The single-lever control, placed conveniently on the front of the bed, on being moved forward starts the drive and rapid traverse motors, thus bringing the rotating drills quickly up to the rail; at this point the rapid traverse is stopped and the drills continue in drilling feed until completion of the operation. The lever is then moved to the reverse position, stopping the main-drive motor and bringing the slide into rapid traverse return to a clear position for unloading and reloading. Rollers, with height adjustment for different rail sections, are provided at each side of the work-table for a quick run-in of the rail section, which is placed against an adjustable stop and clamped by the star handle.

The bed forms a sump for the coolant, which is supplied to the drills by an electric centrifugal pump controlled from the starting lever. This ensures that the coolant is fed only during the drilling operation. A third head can be provided to meet a three-hole condition when necessary. The robust driving mechanism and efficient lubrication ensure the capability of the machine for continuous duty. The net weight of the machine is 42 cwt.

Clearing Snow on British Railways

Three new designs of plough ready for service in the London Midland and Scottish Regions

AFTER the severe winter of 1947, careful consideration was given to the problem of dealing with snow and ice on railways, and a committee was formed by the former L.M.S.R. to investigate the problem and make recommendations as to what steps should be taken to deal with severe conditions in the light of experience gained. It was recommended that three new types of plough should be constructed in sufficient quantities to cover the whole of the L.M.S.R.

It was visualised that the most important requirement was for a small plough which could be fitted under the buffer beam of certain classes of locomotives to enable them to run through small drifts of snow either while hauling normal trains or when patrolling as light engines. This type of plough normally would prevent the building up of drifts.

The principal danger area on what is now the London Midland Region was considered to be the Leeds-Carlisle main line which crosses the Pennines over Ais Gill. For this section of the line 76 locomotives of the 2-8-0, 4-6-0, and 2-6-0 wheel arrangement have been, or are about to be, fitted with the small type of plough. This does not extend beyond the buffers, and does not, therefore, restrict operation.

When this method fails, and deep snow-drifts form, it will be necessary to resort to large-size ploughs which can go through drifts up to 12 ft. in depth. Completely new designs have been recommended, one of which reaches to the top of the smoke-box, while another smaller design will meet less severe conditions. Both types are of all-welded steel construction and designed to be fitted to the front of locomotives of the standard Class 4F 0-6-0 type. The first prototype plough of the larger type has been built.

To carry out the work involved in the provision of the new plough, together with the fitting of the necessary details to the locomotives, the services of the three major locomotive works of the London Midland Region and also the St. Rollox Works of the Scottish Region have been drawn on. Valuable assistance has also been rendered by the Derby Carriage & Wagon Works and the various Motive Power Depots.

New type of small snow plough on L.M.R. locomotive

"Swiss Federal Railways Today"

Swiss Federal Railways authorities consider healthy working conditions to be the best guarantee of efficient service. For this reason station offices have been systematically modernised

Many tourists in Switzerland have their first Swiss meal in a railway station refreshment room. Zurich has the largest, with a capacity of 2,100 in the summer season, while the smallest is at Sarnen, where 42 people can dine in comfort. (*See editorial article in our January 21 issue*)

Photos] [*"The Swiss Federal Railways Today"*

RAILWAY NEWS SECTION

PERSONAL

B.T.C. Deputy-Chairman

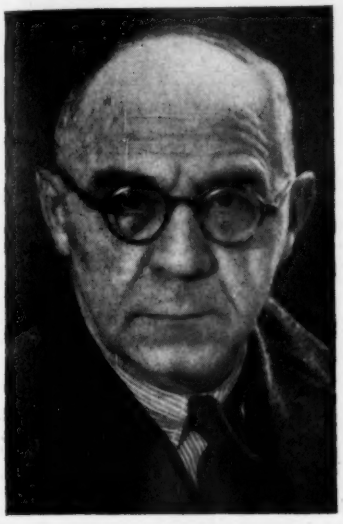
With the concurrence of the Minister of Transport, the British Transport Commission has appointed Mr. John Benstead to be Deputy-Chairman of the Commission. Mr. Benstead, who was General Secretary of the National Union of Railwaymen, has been a Member of the Commission since its inception.

Mr. E. W. Rostern, O.B.E., M.C., previously Chief Officer (Eastern Group Operating), Railway Executive, who, as recorded in our January 21 issue, has been appointed Operating Superintendent, Eastern & North Eastern Regions, British Railways, joined the Great Central Railway in 1910, and was selected for special training under that company's higher-grade scheme. During the war of 1914-18 he served in France with the Railway Operating Division, and in 1917 held the position of Liaison Officer to the French Commission de Réseau du Nord. After the armistice he commanded the Railway Operating Company stationed at Cologne, and from March until July, 1919, was on the staff of the Inter-Allied Railway Commission. He held the rank of Major, R.E., was awarded the Military Cross and the French Croix de Guerre and was mentioned in dispatches. In August, 1919, he was appointed Assistant Traffic Manager (Operating) at Doncaster, but in February, 1920, was released to take up an appointment as Railway Adviser on the staff of the Inter-Allied Plebiscite Commission at Marienwerder, East Prussia, where he was required to report on the problems associated with the movement of traffic through the Polish Corridor. Mr. Rostern subsequently held the command of No. 3 Railway Operating Company, Railway Supply Reserve, until the company was disbanded in 1929. In January, 1924, he became Assistant District Superintendent, Doncaster, L.N.E.R., where he remained until his appointment in 1932 as District Superintendent, Nottingham. From January, 1940, until June, 1941, Mr. Rostern carried out special duties in connection with train working, with the title of Acting Assistant Superintendent (Southern Area); at the latter time he was appointed Assistant Superintendent, Western Section (Southern Area). Mr. Rostern was appointed Acting Superintendent (Southern Area) in August, 1942, and was confirmed as Superintendent for that area at the end of 1945. On January 1, 1948, he was appointed Chief Officer (Operating), Eastern Group, to the Railway Executive.

Mr. A. P. Hunter, Divisional Operating Superintendent, Derby, London Midland Region, British Railways, who, as recorded in our January 21 issue, has been appointed Divisional Operating Superintendent, York, North Eastern Region, joined the L.N.W.R. at Broad Street (Goods Department) in 1909. After being transferred to the Passenger Trains Office of the Superintendent of the Line in 1913, Mr. Hunter was mobilised with the Artists Rifles and went to France in October, 1914. He was commissioned in France, as an R.T.O., in September, 1915, and at the end of the war was serving as a Major on the headquarters staff of the Director of Railway Transport. He returned to L.N.W.R. service, and joined the staff of the District Superintendent, Liverpool, in 1920. After various outdoor appointments at Leeds and Manchester, he became Assistant District Controller, Nuneaton, L.M.S.R., in 1925. He was appointed District Controller at Bedford in 1927, at Coalville in 1928, at Gloucester in 1929, at Wellingborough later in the same year, and at Birmingham (Western Division) in 1930. In 1932 Mr. Hunter was appointed Divisional Controller (Passenger Services), Crewe, and in 1935 became Divisional Freight Controller. He became Acting Assistant Divisional Superintendent (Traffic) in December, 1939, and Assistant Divisional Superintendent of Operation, Crewe (later re-designated as Assistant Divisional Operating Manager), in September, 1944. He was appointed Divisional Operating Manager, Derby, in October, 1947, and last November was re-designated Divisional Operating Superintendent.

The council of the Institution of Mechanical Engineers has awarded the James Watt International Medal to Dr. Fredrik Ljungström, of Sweden, for his outstanding contribution to the development of mechanical engineering.

Señor Miguel Miranda has resigned the office of Chairman of the Argentine Economic Council, for health reasons. Dr. Ramon A. Cereijo, Finance Minister, has been appointed to succeed Señor Miranda, while retaining his present position.



Mr. E. W. Rostern

Appointed Operating Superintendent, Eastern & N.E. Regions, British Railways

Mr. A. P. Hunter

Appointed Divisional Operating Superintendent, York, N.E. Region, British Railways

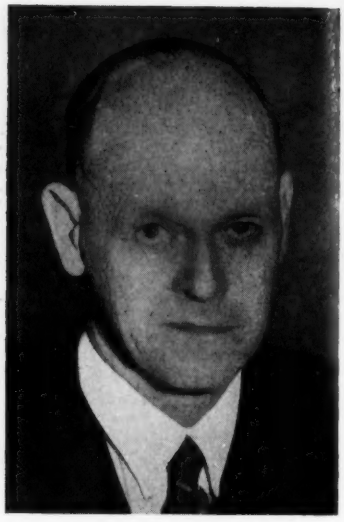
Mr. S. O. Screen

Appointed District Operating Superintendent, Manchester (W), L.M. Region, British Railways

Mr. S. O. Screen, who has been appointed District Operating Superintendent, Manchester (W), London Midland Region, British Railways, joined the Midland Railway in 1914. He served with the Sherwood Foresters from July, 1918, to April, 1920, when he resumed railway service in the General Superintendent's Office, Derby. In 1923 he was appointed to the personal staff of the Chief General Superintendent, Derby, L.M.S.R., and he transferred to the Chief Operating Manager's Office, Euston, in 1934. He became Head of Engine Working, etc., Section, Chief Operating Manager's Office, in 1936, and from 1938 was given added responsibilities in connection with emergency operating arrangements on an outbreak of war. In November, 1939, he entered the R.E. and joined the Movements Directorate, War Office, as a Major. In 1940 he was promoted Lt.-Colonel, in charge of the Q(M)5 Branch, War Office; was promoted Colonel in 1942; and in 1943 was appointed Deputy-Director of Freight Movement (Home). He was demobilised in July, 1945, and in August became Chief of Divisional Trains Office, Manchester, L.M.S.R. Mr. Screen was appointed Chief of Divisional Trains Office, Crewe, in April, 1946. He was made District Operating Manager, Crewe, in June, 1948, and last November was re-designated District Operating Superintendent, Crewe.

The late Mr. A. Maynard
Chief Goods Manager, Great Western Railway, 1931-42

Mr. W. B. Hudson
Comptroller of Stores, New South Wales Government Railways, 1932-48



Mr. B. T. Ruting
Appointed Comptroller of Stores, New South Wales Government Railways

We regret to record the death on January 29, at the age of 66, of Mr. Alexander Maynard, who was Chief Goods Manager of the Great Western Railway from 1931 until he retired, due to ill-health, in 1942. He received his education on the Continent, and commenced his commercial career with a firm of London shipbrokers. He served in the South African War, and on his return joined the staff of C. Shaw Lovell & Sons Ltd., shipping and forwarding agents. Subsequently he travelled extensively in France, Belgium, Holland, Scandinavia and Central Europe. He joined the Great Western Railway at the age of 27, as the company's agent at Nantes, and two years later, in 1911, went to Paddington to take charge of the Continental Department. In 1914 he was appointed Goods Agent at Taunton, and in 1915 became Assistant Goods Superintendent at Birmingham, where later he became Superintendent. In 1918 he returned to Paddington as Goods Superintendent, and in 1922 was appointed Assistant to the Chief Goods Manager, in which capacity he also held the office of Development Agent, then a newly-created post. He did valuable work in connection with the special organisation created by the British railways to meet the establishment in 1923, by the Irish Free State, of an independent system of customs and excise duties. In 1924 Mr. Maynard became Assistant Chief Goods Manager & Development Agent, and in 1931 he was appointed Chief Goods Manager. Cremation took place at Croydon Crematorium on February 3.

Mr. W. B. Hudson, M.I.C.E., M.I.E. (Australia), M.Inst.T., Comptroller of Stores, New South Wales Government Railways, who retired on December 31, entered the Department of Railways as a junior draughtsman in the Way & Works Branch in 1906. He held the position of Metropolitan Civil Engineer when, in 1932, he was appointed Comptroller of Stores. During the war years Mr. Hudson was Director of Emergency Supply and Deputy-Director of Rationing for the State of New South Wales. For some time he was a member of the State Coal Mines Control Board.

Mr. Bernard Theodore Ruting, who has been appointed Comptroller of Stores, New South Wales Government Railways, joined the Department of Railways in 1909 as an apprentice clerk in the Electrical Branch, and was transferred to the Stores Branch in 1915. He had held the position of Stores Supervisor for three years when appointed to his new post as Comptroller of Stores.

Royal Engineers (Transportation) Supplementary Reserve Annual Dinner

The annual dinner of the Royal Engineers (Transportation) Supplementary Reserve was held at the Holborn Restaurant on January 28 (*see page* 136)

Photo] *[Rawood*

Mr. A. P. Reynolds has been re-elected Chairman of the Irish Railway Clearing House Committee for 1949.

We regret to record the death in Johannesburg on January 22, of Mr. Stanley Richard Clay, M.C., a director of Broom & Wade Limited, aged 61.

Mr. E. S. Spackman, Assistant to the European Passenger Manager, Canadian Pacific Railway, since 1946, has been appointed General Passenger Agent.

Mr. J. A. S. Hepburn has been appointed Estate Officer, South Wales Docks, Docks & Inland Waterways Executive. Mr. Hepburn was previously with the London Midland Region.

Nyasaland Railways Limited, and its associate company, Trans-Zambesia Railway Co. Ltd., have appointed as their General Manager, in place of Mr. R. C. Bucquet, who is retiring, Mr. H. W. Stevens, lately Assistant General Manager of the Buenos Ayres Great Southern Railway and Manager of the Buenos Ayres Midland Railway.

Road Transport Executive

The Road Transport Executive announces the following appointments:—

As Divisional Staff & Welfare Officers (Freight): Mr. J. G. Methven, Scottish; Mr. George Lach, South Western; Mr. J. C. Stewart, Western.

As Divisional Engineer (Freight): Mr. W. Russell, Eastern.

Mr. R. Brooks has retired from the position of Chief Engineer, Control Department, Metropolitan-Vickers Electrical Co. Ltd. After periods with the Midland Railway and with Siemens Brothers, he joined Metropolitan-Vickers in 1918. Subsequently, with the post-war reorganisation of the company's traction activities, he was appointed Chief Engineer of the then newly-formed Traction Control Department, and for more than twenty years was associated with many large railway electrification contracts, including the Southern Railway suburban and London-Brighton schemes, and various sections of the South African Railways. During the period Mr. Brooks' responsibilities were increased by the addition first of the Railway Signals, Heating Elements, and Train Lighting Sections, and finally of the Radar Engineering Section (set up before the war), which later became a separate department. Since 1941 he has held the additional position of Chief Engineer, Industrial Control Department (incorporating also Electronic Control). Mr. W. T. Gray has been appointed Chief Engineer, Traction Control Department (including the Railway Signals and Heating Elements Sections), and Mr. G. L. Newman, Chief Engineer, Industrial Control (including Electronic Control); Mr. A. D. Ferguson and Mr. C. M. Sayer have been appointed Assistant Chief Engineers of Traction Control and Industrial Control Departments, respectively, and Mr. S. A. Ghalib has become Engineer-in-Charge, Electronic Control.

Mr. E. S. Waddington (of the Industrial Department of Philips Electrical Limited), has been elected President for 1949 of the Society of Engineers (Incorporated).

The Scottish Region, British Railways, announces that Captain A. Macdonald, Senior Master of the Loch Lomond steamers at Balloch Pier, has retired, after 30 years' service on Loch Lomond.

Under new arrangements just approved the immediate supervision of mineral work in the Eastern Region, British Railways, will, subject to the general control of the Commercial Superintendent, be under an Assistant Commercial Superintendent (Mineral), and Mr. A. S. Railston, District Goods Manager, Manchester, has been appointed to that position.

Indian Railway Staff Changes

Mr. P. C. Kapur, an Officer of the Transportation (Power) & Mechanical Engineering Department, Eastern Punjab Railway, has been appointed to officiate as Deputy-Director, Mechanical Engineering, Railway Board.

Mr. B. C. Mozumdar, lately Deputy-Controller of Railway Supplies, has been appointed Liaison Officer for Railways in the Office of India Supply Mission, Washington.

Mr. D. R. Khanna, Officiating Deputy Chief Traffic Manager, Bombay, Baroda & Central India Railway, has been appointed to officiate as Traffic Superintendent of that railway.

Trade association secretaries representing all sections of British industry and commerce met in London on January 28 for the annual general meeting of the Secretaries Club. The President, Mr. W. T. Caves (of the Wholesale Textile Association), told members in his annual report that membership had now reached 240.

Luncheon to Mr. Gleeson Robinson

Members, Deputy-Members, and the Clerk of the Road & Rail Traffic (Goods) Appeal Tribunal gave a luncheon at the Charing Cross Hotel on February 1 in honour of their retiring Chairman, Mr. Gleeson E. Robinson, who will shortly take up permanent residence in South Africa. Mr E. S. Shrapnell-Smith, as senior Member, presided, and made a joint souvenir presentation.

Mr. G. Crabtree, who, as recorded in our January 7 issue, has been appointed District Operating Superintendent, Edinburgh, Scottish Region, British Railways, under the new organisation in that Region, was appointed District Superintendent, Edinburgh, L.N.E.R., in 1947. He joined the L.N.E.R in 1925 as junior clerk in the York District Superintendent's Office. He obtained a traffic apprenticeship in 1932, and had three years' training in the Southern Area. After a period in the Superintendent's Office at Liverpool Street, and afterwards acting as Assistant Yardmaster at Colwick, he was appointed to the Programme Section, Superintendent's Office, York, in 1938. He acted as East Coast Inspector for a short period in 1940, and in February, 1941, was appointed Chief Trains Clerk & Chief Controller, District Superintendent's & District Locomotive Superintendent's Office, Newcastle. He returned to York in February, 1943, to act as Senior Freight Trains Clerk, Superintendent's & Locomotive Running Superintendent's Offices, and was appointed Chief Freight Trains Clerk & Chief Controller, S.O. & L.R.S.O., Edinburgh, in February, 1944. As from July 2, 1945, Mr. Crabtree took over temporarily the duties of Trains Assistant to the Superintendent & Locomotive Running Superintendent, Scottish Area, and he was confirmed permanently in that position in the next November, serving in that capacity until June, 1947, when he became District Superintendent, Edinburgh.

Luncheon to Captain A. E. Williams and Mr. A. L. Rawlinson

Mr. James Maxwell (Thos. Cook & Son) presided on Tuesday at a farewell luncheon at the Dorchester Hotel to Captain A. E. Williams (American Express Company) and Mr. A. L. Rawlinson (Canadian Pacific Railway) on the occasion of their retirement. Farewell speeches were made by Mr. Keith Grand (representing British Railways); Mr. Tarleton Winchester (representing shipping companies); Mr. Keith Granville (representing air companies); and Commander St. John (representing road companies).

Memorial Service for Mr. J. H. Thomas

A memorial service for Mr. J. H. Thomas, for many years General Secretary of the National Union of Railwaymen, Member of Parliament for Derby from 1910 to 1936, and former Cabinet Minister, was held on February 1 at St. Martin-in-the-Fields. Among the large number attending, in addition to family mourners, were:—

Mr. P. Noel-Baker (Secretary of State for Commonwealth Relations); Mr. George Isaacs (Minister of Labour & National Service); the Earl of Dudley; Sir Frederick J. Burrows; Sir William Wood and Mr. John Benstead (British Transport Commission); Colonel Sir Alan Mount; past and present officers of the National Union of Railwaymen and members of branches of the union in many parts of the country; representatives of the T.U.C., Canadian Pacific Railway, Canadian National Railways, and many other organisations.

Mr. R. H. Collingham has retired from the position of Chief Turbine Engineer, British Thomson-Houston Co. Ltd., but continues his association with the company as consultant on technical design problems. Consequent on the retirement of Mr. Collingham, Mr. K. R. Hopkirk, Assistant Chief Mechanical Engineer of the company, assumes responsibility for turbine and gearing design and engineering. Mr. P. D. Morris is appointed Chief Turbine Engineer, and Mr. S. A. Couling, Chief Gear Engineer.

British Transport Officers' Guild

Subsequent to the re-naming of the British Transport Officers' Guild (formerly British Railways Officers' Guild), and the increased scope of its activities (see our January 7 issue), the structure of the Guild has been reorganised, and the country divided into eleven areas, each represented by seven members forming an area committee, of which two are Warden and Deputy-Warden, respectively. The Wardens, in addition to the Master, form the executive committee. As already recorded, the newly-elected Master is Mr. A. L. Castleman. The area committees have elected Wardens as follow:—

(1) Mr. C. J. Foster (District Goods & Passenger Manager, Perth, Scottish Region); (2) Mr. L. Ballan (District Goods Manager, Hull, North Eastern Region); (3) Mr. D. S. Inman (District Goods Manager, Liverpool, London Midland Region); (4) Mr. J. Dickson (District Engineer, Derby, North, London Midland Region); (5) Mr. E. C. Cookson (Divisional Engineer, Newport, Western Region); (6) Mr. N. S. Cox (Divisional Engineer, Plymouth, Western Region); (7) Mr. W. E. Green (District Superintendent, Kings Cross, Eastern Region); (8) Mr. A. L. Castleman (retired District Goods Manager, London, L.M.S.R.); (9) Mr. C. H. Coe (Rates Assistant to Commercial Superintendent, Paddington, Western Region); (10) Mr. J. W. Terry (Assistant Stores Superintendent, Waterloo, Southern Region); (11) Mr. S. P. Jones (Assistant Solicitor, Common Law, London Transport Executive).

Experimental Double-Deck Green Line Coach

To test the practicability and desirability of operating specially-designed double-deck vehicles as coaches, London Transport has produced an experimental double-deck vehicle for use on Green Line routes, and this was demonstrated to representatives of the technical press at Chiswick Works last Friday. The opportunity has been taken at the same time to incorporate certain features of an advanced experimental character so that these may be tested under service conditions, and thus the vehicle, both in type and various details, is wisely described officially as experimental. It will not be placed in service immediately, as it has not yet been submitted to the Licensing Authority.

The chassis is basically the A.E.C. Regent Mark 3, incorporating fluid transmission, pre-selective gearbox, air pressure operated brakes, and pressure gear control. A novelty is the positioning of the radiator under the stairs at the rear of the vehicle, where it forms part of a new heating and ventilating arrangement.

The body is of the standard width of 7 ft. 6 in. and has a seating capacity of 46, of which 20 are in the lower saloon, and 26 in the upper. As it is designed for coach service, the interior furnishings have an appreciably higher standard of comfort than that of the R.T. type bus, of which the coach is a development. It has not been found possible, however, to include in a double-deck vehicle the luggage racks that are a familiar feature of Green Line coaches. The window treatment gives the effect of long and almost continuous windows with maximum visibility. This has been achieved by a special design of the intermediate pillars, together with the elimination of the horizontal centre bars. The windows are of the full drop type, mechanically wound, but with a limited opening.

An entirely new and provisionally-patented arrangement has been introduced into the body structure whereby heated air is forced through the vehicle in winter, and during the summer air is extracted through the same system. It is for this reason that the engine radiator has been placed under the stairs, at which point connection is made to longitudinal ducts at floor level on each side of the upper and lower saloons. An electric fan draws fresh air from the front of the coach and blows it through the radiator into the saloons for heating, giving 17½ air changes an hour. During summer conditions, the flow is reversed, and air is extracted from the ducts through the radiator, which is then operated as a cooling unit for the engine.

The rear entrance of the coach is equipped with electro-pneumatically-operated double sliding doors of special London Transport design. Fluorescent lighting has been incorporated in the vehicle with a view to obtaining general service experience and assessing the maintenance problems associated with it.

Double-deck coach with maximum window visibility

Sir Cyril Hurcomb on Road Transport Policy

At a luncheon held by the Worshipful Company of Carmen at the Drapers Hall, London, E.C.2, on January 26, when Mr. B. G. Turner, Master of the Company, was in the chair, one of the speakers was Sir Cyril Hurcomb, Chairman of the British Transport Commission, who proposed the toast of the "Company."

In the course of his remarks Sir Cyril Hurcomb said that the policy pursued by the B.T.C. had been to negotiate for transfers of undertakings willing to negotiate in advance of the compulsory provisions of the Act coming into operation. The main reason was to ensure that the Road Transport Executive would be able to build up its organisation in a solid framework into which the other undertakings could be fitted. They intended to secure a smooth transition and avoid risk of dislocation in the great network of services by road provided in the past.

Nor could this policy have had any adverse effect on those undertakings—mainly the smaller concerns—which would be dealt with by compulsory acquisition. They had paid close attention to the provisions of the Act as regards compensation and realised the importance of treating equally all those who were similarly circumstanced.

The Road Transport Executive was developing its district organisation at a tempo which roughly would correspond with the process of acquisition. This would make it easier to fit in the managers and technical staff as their undertakings were acquired. As the organisation developed, broken down as it would be into operating units of convenient size, he believed it would offer a service to the trading community no less efficient than in the past.

Liverymen of this Company, continued Sir Cyril Hurcomb, played a great part in establishing this new industry, and among them he would mention Mr. H. G. Dutfield and Mr. G. W. Quick Smith, who were helping to keep a highly-powered new engine on the road. The Master of the Company, Mr. B. G. Turner, was also Chairman of the Road Haulage Association, which represented the large number of hauliers remaining outside the B.T.C. A large field was left open for the operation of private hauliers.

They intended that the fullest use should be made of the Road Haulage Association and the experience it could bring to bear on problems of administration and machinery. They would aim, therefore, at establishing a well-devised system of practical liaison with the industry outside, principally no doubt through the R.H.A.

In many matters it might be possible to pursue a common line, but, even where that was not possible, neither the Commission nor the Executive would wish to proceed without giving them every opportunity for expressing their views and representing their case.

Wicklow's Transport Problem

Some of the transport problems which confront the Wicklow and Dublin areas of Eire were discussed by Mr. Ashley Brown in an address before the Wicklow Literary & Historical Society on January 12, 1949. He pointed out that Wicklow was approximately 28 miles from Dublin, but that this short journey by bus took 1 hr. 30 min. He suggested that the bus should not be regarded as an end in itself; its proper function was to convey passengers from surrounding districts to centres from which fast and cheap railway services were available.

The position of the Irish railways at the present time was very similar to that of the British railways after the 1914 war. An inferior service at an enhanced cost had resulted in a steady decline in passenger revenue. As a result of energetic action fares had been reduced and journey times had been greatly improved. Then passenger revenue had commenced to show a substantial gain.

There were exceptional attractions in County Wicklow for the men and women who worked in Dublin, and Mr. Ashley Brown suggested that given a new and invigorated Coras Iompair Eireann it should be possible to form a development company to work in co-operation with it. This development company should make itself responsible for the erection of service flats and the C.I.E. should guarantee the requisite train service to take them to and from Dublin over a period of three years.

DUTCH AND AMERICAN VAN DER HORST INTERESTS.—Mr. C. D. B. Williams has been appointed Technical Consultant & Commercial Representative for the Dutch and American Van der Horst interests in the United Kingdom. For the past ten years Mr. Williams has managed the British Van der Horst Works at Sheepbridge, Chesterfield, and for the time being his headquarters will be at 220, Bradway Road, Sheffield.

Permanent Way Institution Annual Meeting and Dinner

The sixty-fifth annual winter general meeting of the Permanent Way Institution was held at the Institution of Civil Engineers, London, S.W.1, on January 29, 1949, with the President, Mr. J. Taylor Thompson, M.C., in the Chair. A large attendance of members representing all Sections in Great Britain included past Presidents Mr. J. C. L. Train, M.C., and Mr. S. L. Murgatroyd, O.B.E.

Before commencing the business of the meeting, the Chairman announced the death of the former Secretary, Mr. Stamford E. McLewin, on December 18, 1948, and as a mark of respect those present stood in silence.

In reporting on the Institution's activities during the past year, the Secretary, Mr. H. Janes, gave particulars of the meetings of the various committees, which had relieved the Council of much detail work. The President had continued the practice of his predecessors in making visits to the Sections. During the year no fewer than 199 meetings and visits had been held by the Sections, and the activities of the Institution now surpassed pre-war standards. A new Section had been formed in East Anglia area, and many new entrants to the Institution had been recruited from that portion of the Eastern Region. The Perth Section had also been revived after a lapse of some years.

The enrolment of members had continued at the high level reported during recent years, and 739 were elected in 1948. Of this number, the various Regions of British Railways contributed as follow: Eastern Region, 184; Scottish Region, 105; London Midland Region, 104; Western Region, 63; North Eastern Region, 59; and Southern Region, 47.

Three journals had been prepared and published during the year under the editorship of Mr. H. Ormiston, and, in addition to the reports of Council, General, and Section Meetings, eleven original papers had been printed.

The Summer Convention was held in the North Wales and Liverpool area, and it had been decided that the 1949 convention from June 17 to June 22, should take place in Ireland, with headquarters at Dublin.

The financial position of the Institution was sound, but it had become necessary to increase, as from January 1, 1949, the subscription rate of some grades of membership. This was due to the continued increase in costs, and would enable further activities to be put into operation.

Re-election of President

Mr. J. C. L. Train then moved the re-election of Mr. J. Taylor Thompson who had filled the office during 1948 to the entire satisfaction of all. Mr. S. L. Murgatroyd seconded the motion, and the election was agreed with acclamation.

Vice Presidents were then elected as follow: England, Mr. B. Lloyd Davies, J.P.; Scotland, Mr. W. Paterson; Wales, Mr. A. W. M Dyke; Ireland, Mr. C. H. Slater, M.C.; Sudan, Mr. C. T. Sargeant. The officers elected were: Secretary, Mr. H. Janes; Treasurer, Mr. F. Lawson; Editor, Mr. H. Ormiston; Auditors, Mr. Hector Hall and Mr. R. J. Marfleet.

The formal business was followed by the exhibition of a film, "The Permanent Way Institution," specially prepared by Messrs. H. S. Wood and J. Burton, of the York Section. Mr. Wood acted as commentator. The film showed the development of the Institution from its earliest days, and included a "shot" of the room in Nottingham in which the first meeting was held in 1884, by Permanent Way Inspectors of the Midland Railway, who agreed to form the "Institution of Permanent Way Inspectors." Scenes from recent activities included the Summer Convention in Chester, and a joint meeting of the Nottingham and York Sections.

In thanking Mr. Wood and Mr. Burton for the interest they had shown, and the work of preparing the film, the President said that it would be available for showing at Section meetings and would doubtless be of much service in obtaining new members.

The Annual Dinner

The annual dinner was held the same evening at The Railway Executive Headquarters, 222, Marylebone Road, when the President, Mr. J. Taylor Thompson, M.C., occupied the chair. The principal guest was Mr. James Callaghan, M.P., Parliamentary Secretary, Ministry of Transport. Among those present were:—

Messrs. W. P. Allen, C.B.E., D. R. Bennett, J. Benstead, C.B.E., W. H. Best, James Callaghan, M.P., J. I. Campbell, E. C. Cookson, A. Dean, C. E. Dunton, A. W. Dyke, H. B. Everard, C. C. B. Herbert, and C. P. Hopkins, Sir Cyril Hurcomb, G.C.B., K.B.E., Messrs. H. Janes, W. D. Johns, J. A. Kay, C. F. Klapper, C. C. Langley, B. Lloyd Davies, R. F. Morkill, M.C., R. J. Marfleet, S. L. Murgatroyd, O.B.E., H. Ormiston, W. Paterson, J. N. Peck, O.B.E., M.C., A. S. Quartermaine, C.B.E., M.C., J. Ratter, R. C. Rattray, M.B.E., H. E. Robarts, V. A. M. Robertson, C.B.E., M.C., W. L. Savage, R. A. Savill, C. E. R. Sherrington, O.B.E., M.C., M. G. R. Smith, M.B.E., N. W. Swinnerton, O.B.E., M.C., L. Taylor, J. Taylor Thompson, M.C., J. C. L. Train, M.C., J. Tredget, J. A. R. Turner, and H. A. Vallance.

Mr. James Callaghan, M.P., Parliamentary Secretary, Ministry of Transport, proposed the toast of the Permanent Way Institution and expressed the regret of the Minister for inability to be present. Mr. Callaghan emphasised the importance of permanent way as the foundation of the railway system on which everything depended. The Permanent Way Institution was doing great work in bringing together all those concerned with railway construction and maintenance, and enabling them to discuss their problems on common ground. He was convinced that a great future lay before the railways as part of a co-ordinated system of transport, and everything possible would be done to provide an efficient service.

Mr. J. Taylor Thompson (the President), in responding, said that he regarded the presence of Mr. Callaghan as an indication of the interest taken by the Ministry of Transport in the activities of the Permanent Way Institution. He expressed the thanks of the Institution to the Railway Executive for allowing the annual dinner to be held at its headquarters. It was the first social function to be held there since it became known as "222, Marylebone Road." There were now some 5,000 members of the Institution, and the membership had been doubled during the past few years. It was the policy of the Institution to foster interest, pride and incentive in anything connected with permanent way, and if this could be achieved, a great service would have been rendered to British Railways. The President extended a warm welcome to Mr. S. L. Murgatroyd, the oldest member of the Institution, and President for the years 1896 and 1897.

Mr. Murgatroyd responded briefly by saying that he had been interested in the Institute ever since it was founded. At that time, he was serving his apprenticeship, and the founder, the late Mr. Meredith, urged him to join because, he said, "we want someone to do some work for us!"

Mr. A. S. Quartermaine proposed the toast of "The Guests." He said the President had already mentioned Mr. Callaghan. As Member of Parliament for South Cardiff he would no doubt like a very high speed service between London and Cardiff, and given the tools and the material, the Western Region would finish the job so far as the track was concerned. The next name was that of Sir Cyril Hurcomb. As chairman of the British Transport Commission he held a position with a load of responsibility and a complicated and varied type of work to organise. Their admiration went out to the man who took on that responsibility. His presence there that night was an example of his wide interest in all their affairs. Mr. Benstead, another member of the British Transport Commission, was an old friend of theirs, and they were also pleased to see Mr. W. P. Allen, a Member of the Railway Executive, and a very able Member too. Mr. C. P. Hopkins had come a long way. It gave him pleasure to state the satisfaction the engineers felt for the way Mr. Hopkins and all the other Regional Officers were helping the machine to work. He also welcomed Mr. John Kay, the power behind a good many technical publications, notably *The Railway Gazette*, of distinctive quality and colour. He had attended their winter gatherings as long as he could remember. He gave them space and ensured the dissemination of knowledge regarding anything associated with the permanent way without fear or favour. Recently *The Railway Gazette* had given its views concerning "Shorter Trains and More of Them." As a permanent way man he would like to see lighter trains so that they could go up inclines a bit faster and not have to come down gradients like "scalded cats." Mr. Klapper, Assistant Editor of *Modern Transport*, was also present, and although that journal covered the whole range of transport, it found space for the railways. In conclusion, he mentioned the presence of two engineers from the French National Railways, M. Geais and M. Graff.

Sir Cyril Hurcomb, in responding, said that this annual dinner of the Permanent Way Institution happened to mark an historic occasion in the annals of British railway engineering. The British Transport Commission had recently approved the proposal of the Railway Executive to adopt as standard a new design of track, incorporating the flat-bottom type of rail, and thus gradually to alter the permanent way to which they had been accustomed in this country for over a century. It was, indeed, a change of which it was difficult to overstress the interest. It was appropriate that he should emphasise its importance tonight, because the members of the Institution, from chief engineers to the most junior lengthsmen and labourers, had played an important part in helping to develop this new standard track, while their President, Mr. J. Taylor Thompson, was Chairman of the committee representing all the railway Regions which was concerned with its design.

Although rather more than 95 per cent. of rail track-mileage in the world had been laid with F.B. rails, the design now approved and adopted was entirely British, and had not previously been used in any other country. As a result of careful com-

parative tests under traffic conditions, initiated by the former railway companies, a sufficiently high standard had now been evolved to justify the adoption of F.B. rail on British Railways. Drawings of the new design would be made available to all countries and would undoubtedly prove of great interest abroad.

For the public, the new rail should mean, in course of time, quieter and smoother running of trains. Its introduction would also lead to large economies, both in the cost of maintenance and in the time required for renewals. The F.B. track needed about 15 per cent. less time for upkeep and had a longer life, and the savings in maintenance costs more than justified the substantial additional capital outlay involved. Thanks to this new development, the Executive could proceed more rapidly with the welding of rails which was now being carried out on a wide scale on British Railways. The F.B. rails lent themselves much better to welding in longer continuous lengths. This would give more comfort and less wear.

If the expression might be permitted, they would not, and could not, go for this new track in a "bull-headed" way. It must take many years to relay the 22,000 miles of track which would eventually be laid with the heavier type (109 lb.) rail, but a good start had been made. The existing mileage was more than doubled in 1948, and over 500 miles of main-line track had thus already been re-laid in this fashion, mainly on the East and West Coast routes to Scotland. The results had fully satisfied expectations. This year it was intended to relay not far short of another 500 miles with flat-bottom rails, one-third of the total track renewal programme, and even this involved laying 130,000 tons of iron and steel in one year. An increasing proportion of track would be re-laid in the new design every year until the whole programme was completed.

The permanent way staff, professional and other, should find satisfaction in the thought that, so shortly after the establishment of the new railway organisation, it had been possible to decide on, and to embark on, a technical change of this kind, and the British Transport Commission were glad to take the most suitable of all possible opportunities to congratulate them and the Railway Executive. They were all probably agreed in regarding Mr. J. C. L. Train as a P.W. man and one of themselves even more than a functional Member of the Railway Executive. They would be agreed, also, in wanting him to take his share of the congratulations in whichever capacity he pleased.

Mr. John Benstead, in proposing the toast of the Railway Executive, said that the first twelve months of nationalisation had shown that the Railway Executive was doing excellent work. Many difficulties still remained to be overcome, but the position on the railways had improved considerably.

Mr. W. P. Allen responded, and said that the Railway Executive welcomed the continuance of the traditions which characterised the old companies, but it must be realised that some changes were inevitable. The first duty of the Railway Executive was to its clients, and every effort must be made to give the public the service that it wants. Every member of the railway service should strive to achieve this end.

The toast of "Absent Friends" was given by Mr. B. Lloyd Davies, and the proceedings, which had been interspersed with musical items and conjuring, concluded with "Auld Lang Syne."

Royal Engineers (Transportation Branch) Supplementary Reserve

First post-war annual dinner

Brigadier R. Gardiner, C.B.E., Commandant, Transportation Centre, Longmoor, Royal Engineers, presided at the first post-war annual dinner of the Royal Engineers (Transportation) Supplementary Reserve, held at the Holborn Restaurant, London, on January 28. Some 160 past and present officers of Supplementary Reserve and past and present members of the staff at Longmoor attended. The guests included:—

Field Marshal Sir William Slim, G.B.E., K.C.B., D.S.O., M.C., C.I.G.S.; Hon. Colonel R.E. (Tn.) S.R.; General Sir Sidney C. Kirkman, K.B.E., C.B., M.C., Q.M.G.; Major-General A. D. Campbell, C.B., C.B.E., D.S.O., M.C., E.-in-C.; Brigadier R. F. O'D. Gage, C.B.E., M.C., late D. Tn., General Sir Daril G. Watson, G.C.B., C.B.E., M.C., Railway Executive; Mr. V. M. Barrington-Ward, C.B.E., D.S.O., Railway Executive; Mr. G. L. Darbyshire, C.B.E., C.R.O., London Midland Region; Mr. C. K. Bird, M.M., C.R.O., Eastern Region; Mr. K. W. C. Grand, C.R.O., Western Region; Major-General G. N. Russell, C.B., C.B.E., Chairman, Road Transport Executive; Mr. John Cliff, D.L., London Transport Executive; Mr. Leslie E. Ford, General Manager, P.L.A.; Sir Ralph Metcalfe, K.B.E., Vice-President, Assn. of Master Lightermen & Barge Owners; Mr. D. R. Lamb, President, Institute of Transport; Mr. J. A. Kay, Editor, *The Railway Gazette*.

Field Marshal Sir William Slim, in proposing the toast of "The Guests" said that when the Indian Army was disbanded he was given a job on the Railway Executive. During his year's service with that body he had received nothing but understanding kindness, mentioning in particular, Mr. V. M. Barrington-Ward and Mr. Keith Grand, C.R.O. Western Region. Now General Sir Daril Watson had become associated with that magnificent body and by leaving the Army and joining the Railway he was exchanging one great service for another. The transport undertakings had always assisted the Supplementary Reserve and been willing to spare their best men at their own expense and at the risk of their own business in the service of the country. For these sacrifices he would always be grateful. Both at home and overseas, transport men in the last war had done a magnificent job of work. "In the Supplementary Reserve," he said, "we have now got exactly the kind of officers we want. This branch is of the greatest importance, because transport is absolutely the life-blood of the Army. I cannot tell you what I owe to the fellows who moved my army." The Field Marshal concluded by paying a tribute to the technical press and particularly to the Editors of *Modern Transport* and *The Railway Gazette* with whom he had become acquainted whilst serving with the Railway Executive.

Mr. V. M. Barrington-Ward, in responding, congratulated the Supplementary Reserve on the honour it enjoyed in having as its Hon. Colonel the Chief of the Imperial General Staff. After winning fame with "a forgotten Army," Sir William Slim had done great work for the Railway Executive. They welcomed as his successor another famous soldier in the person of General Sir Daril Watson. During the first world war the railway operating division in France had expanded from a handful of men in 1915 to 25,000 in 1918. Referring to the early days of the Supplementary Reserve in 1924, he wished its reconstituted successor well and emphasised the need for good discipline and a high standard of training. In 1924 they had all the officers and men they wanted, but today they had the officers but not the men. The B.T.C. on the recommendation of the Railway Executive had agreed that all men going to camp for a fortnight's training would have a make-up of their pay. He hoped this generous gesture would be emulated by other transport undertakings and that it would attract the requisite recruits. In deciding to make this recommendation the Executive had recognised the value, in their civilian employment, of the training given to railwaymen. Concluding, Mr. Barrington-Ward proposed the toast "The Royal Engineers (Transportation) Supplementary Reserve."

Brigadier Gardiner, in responding, said that although he was a newcomer to Longmoor, having only recently taken over there from India, the Supplementary Reserve was already impressed on his mind as one of his prime and livelier responsibilities. Longmoor, he added, was now known as the Transportation Centre and no longer the Transportation Training Centre. He extended a welcome to all for this year's (1949) camp.

Parliamentary Notes

Railway Fares

Mr. William Shepherd (Bucklow—C.), on the motion for the adjournment of the House of Commons on January 25, raised the question of railway fares. He said that when, a short time ago, he had sought to press the points that railway traffic was falling at an alarming rate, that the cost of fares was not 55 per cent. above the 1948 figure, but something substantially higher, and that the cheap fare facilities now being offered by the railways were inadequate, the Parliamentary Secretary had replied inaccurately.

Mr. Shepherd then drew attention to what he described as some of the alarming inaccuracies in the reply of the Parliamentary Secretary. He had said that the cheap fare between Manchester and London was 37s. 6d. today, but the Parliamentary Secretary had said he had a newspaper which showed it was 23s. He (Mr. Shepherd) had a pamphlet published by British Railways, No. E.22/R., with details of day excursions between Euston and Manchester, or vice versa. It said the fare to Manchester was 37s. 6d. The Parliamentary Secretary had confused a half-day with a day excursion fare.

The percentage of cheap fares offered at present was abysmally low. Sir Cyril Hurcomb had advised him that in 1948 approximately 10 per cent. of the passengers, and in 1938 about 50 per cent. had travelled on cheap fares.

The figures for 1947 were roughly 100 million less passengers than in 1938, and the figure for 1948 looked like being 200 million less than in 1938. Moreover, in 1947 and 1948 about 50 million journeys had been undertaken by the War Department.

Holidays with pay and a long period of full employment ought to have swollen railway traffic. It was no good saying there were not enough locomotives. Sir Eustace Missenden, an excellent and able man, had (as quoted in *The Railway Gazette* of November 5, 1948) said that today there were sufficient locomotives and the condition of the fleet was better than before the war. The argument that they were short of carriages had more weight, but carriages were running poorly filled.

The Parliamentary Secretary had said it was the desire of the Railway Executive to reduce fares, but that it wanted to be reasonably certain of securing additional revenue from reduced fares. The railway companies had had to take a chance. The Minister and the railways were saying to themselves: "We might fill these empty carriages, but we might not, and therefore we will not take a chance. We will wait until coach and bus fares are increased."

Squadron-Leader E. Kinghorn (Great Yarmouth—Lab.) said that the Railway Executive would be receiving from his constituency in the near future a petition in these terms: "In view of the financial hardship suffered by many holiday makers in our district through the high level of railway fares to the seaside, we pray you to give the most urgent consideration to the East Anglian petition for a reduction of long-distance travel rates on your railways in the summer time." The railways had done a very good job since the end of the war. They on his side who had put forward nationalisation had nothing to be afraid of in view of the progress made since the passage of the Act. Indeed, Mr. Shepherd had given them this commendation, quoted in *The Railway Gazette*, that they now had sufficient locomotives and that their condition was better than before the war. That was a very good testimonial from Sir Eustace Missenden.

Mr. James Callaghan (Parliamentary Secretary, Ministry of Transport), replying for the Government, said he had been told that in the previous debate on this subject he had made a gross error or misled the House in connection with cheap-fare facilities. Mr. Shepherd had read out the excursion fare from Manchester to London. He (Mr. Callaghan) had happened to be perusing one of the London evening newspapers at the same moment, and he had seen an advertisement in it of British Railways, and all he had done was to read out some of the fares of excursions being run on the next Sunday. What Mr. Shepherd said was: "Yes, but there are various different types of excursion, and we were not talking about the same types." That might well be true.

Now he was charged with misleading the House by saying that fares were only 10 per cent. above the 1928 level. He (Mr. Callaghan) had been quoting the main-line fares, and said they were all 55 per cent. up on pre-war. He had since turned up the fares for 1928, and, in point of fact, the fares paid in 1948 were only about 10 per cent. up on the 1928 level. He was referring to the monthly return tickets. The normal return fare in 1928 had been double the ordinary single fare, whereas today the normal return fare was single fare plus one-third.

A very small percentage of people indeed travelled by what Mr. Shepherd called the ordinary fare. In September, 1948, a specimen month, 9·32 per cent. of passengers, exclusive of season ticket holders who ought to be excluded for that purpose, had paid the standard fare. If season tickets were included it would make the percentage higher. Of the total, 33·13 per cent. had paid the monthly return fare.

The Railway Executive had introduced large numbers of cheap-fare facilities during the last 12 months. The proportion of passengers in 1947 who had used cheap fare facilities had been 5 per cent. of the total passenger traffic. In the first quarter of this year, it had been 5·2 per cent., which had been about the time of the release of the railways; in the second quarter it had gone up to 8·6 per cent.; and in the third quarter to 17·8 per cent. For the year as a whole it would be near enough 10 per cent.; but it was an ascending curve and it was the commercial expectation of the Railway Executive that that percentage would rise as the facilities became better known.

British Transport Joint Consultative Council

As was reported briefly in our issue of January 28, the first meeting of the British Transport Joint Consultative Council, which was formed in December, 1948, to exchange information and views on matters of common interest in relation to inland transport and the work of the B.T.C. and its five Executives, was held on January 25.

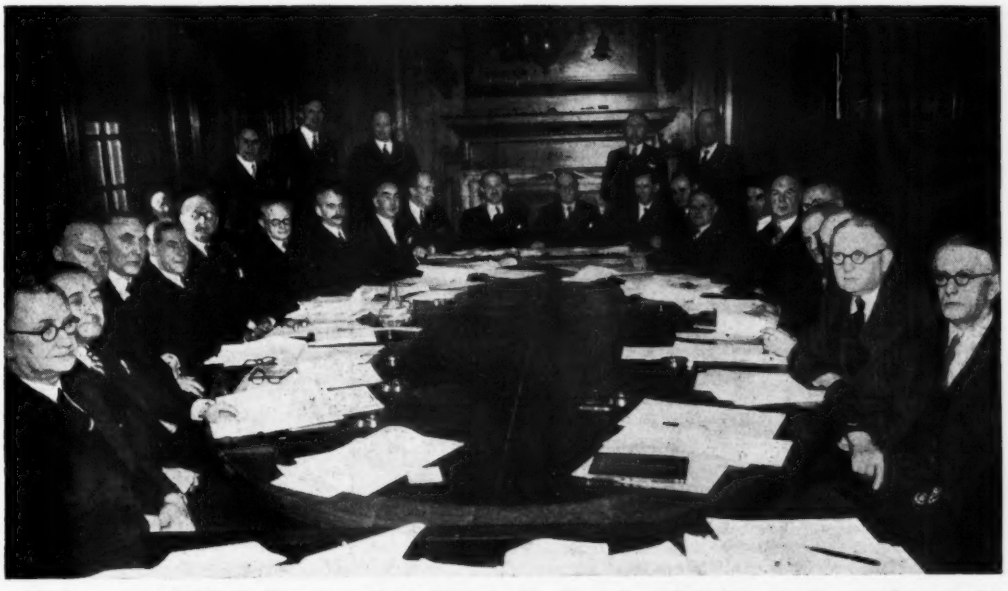
Sir Cyril Hurcomb, Chairman of the British Transport Commission, presided at the meeting, and there were present Members of the B.T.C. and its Executives and representatives of five trade unions. In the photograph reproduced below are seen, from left to right, round the table:—

Mr. John Cliff, Deputy-Chairman, L.T.E.; Lord Latham, Chairman, L.T.E.; Lord Rusholme, B.T.C.; Mr. John Benstead, B.T.C.; Sir Cyril Hurcomb; Lord Inman, Chairman, Hotels Executive; Sir William V. Wood, B.T.C.; Sir Ian Bolton, B.T.C.; Messrs. David Blee, Railway Executive; J. C. L. Train, Railway Executive; Major-General G. N. Russell, Chairman, Road Transport Executive; Messrs. Claud Barrington, R.T.E.; J. Donovan, Docks & Inland Waterways Executive; P. McGubbin, A.S.L.E.F.; J. G. Baty, A.S.L.E.F.; E. S. Gewitzki, N.U.R.; J. B. Figgins, General Secretary, N.U.R.; W. T. Potter, President, N.U.R.; Arthur Deakin, General Secretary, T.G.W.U.; S. Henderson, T.G.W.U.; P. Morris, Railway Clerks Association; P. T. Heady, R.C.A.

Standing (left to right): Mr. Frank Gilbert, B.T.C.; Messrs. Miles Beevor, B.T.C.; R. Davidson, Docks & Inland Waterways Executive; A. Andrews, Confederation of Shipbuilding & Engineering Unions; Gavin Martin, C.S.E.U.

Mr. Frank Gilbert and Mr. Arthur Deakin are the Joint Secretaries of the Council. Meetings will be held quarterly.

British Transport Joint Consultative Council



Members of the British Transport Joint Consultative Council at their first meeting on January 25

Notes and News

Institution of Electrical Engineers.—A paper entitled: "Railway Traction Control Equipment on Suburban London Transport," will be read by Mr. E. Webster before the Institution of Electrical Engineers, Savoy Place, London, W.C.2, at 5.30 p.m. on February 17.

Engineer for Bridge Reconstruction Required.—Applications from qualified candidates are invited for the post of engineer for bridge reconstruction (capital works) required by the Nigerian Railway, for one tour of 18 to 24 months in the first instance. See Official Notices on page 139.

Institution of Railway Signal Engineers.—Mr. J. P. Coley, of the Westinghouse Brake & Signal Co. Ltd., will read a paper on: "Relays and Standardisation" at a meeting of the Institution of Railway Signal Engineers, to be held at the Institution of Electrical Engineers, Savoy Place, London, W.C.2, at 6 p.m. on February 16.

Vacancies in Chile.—Applications are invited from qualified candidates for the following posts required by a British railway operating in Chile and Bolivia:—Assistant chief mechanical engineer, between 35 and 40 years of age; assistant electrical engineer, between 30 and 40 years of age; boiler shop foreman, between 30 and 40 years of age. See Official Notices on page 139.

Public Lectures on Timber.—A series of public lectures on timber has been arranged by the Timber Development Association Limited, in collaboration with the governors of the Polytechnic, Regent Street, London, W.1. The first of the lectures, which begin at 7.15 p.m. and are free, was given on January 27, by Mr. Phillip O. Reece, on: "Timber as an Engineering Material." The series will be continued as follows: February 7, "Framed Timber Structures," by Mr. R. T. Walters; February 17, "Glued Laminated Timber Structures," by Mr. R. T. Walters; February 28, "Timber as a Raw Material," by Mr. H. A. Cox; March 10, "Modern Adhesives—their present and future application," by Mr. D. A. Hubbard; March 21, "New Woods for Old. Some Alternatives to Traditional Timbers," by Mr. B. A. Jay.

Glasgow Train Collision.—More than 70 passengers were injured, most of them only slightly, in a train collision at Glasgow Cross Station on January 31. A passenger train from Rutherglen ran into the rear of a passenger train from Shotts, which was standing in the station, and five coaches were derailed. The trains were underground at the time.

London Midland Region Salvage Drive.—Figures issued recently by the London Midland Region, British Railways, show that 153,712 bottles and 1,582 tons of waste paper were recovered from trains and platforms in the last twelve months. The bottles are sent to the special bottle-sorting stores at Ashton Road, Manchester, and, after sorting, are sold to the various trading interests. Since the depot was opened in 1941 more than 2,300,000 bottles have been dealt with.

Great Northern Railway (Ireland).—The result of working for the year 1948, after payment of interest on debenture stock, providing £50,000 for contingencies, and meeting other fixed charges, was a deficit of about £72,000. Liability for excess profits tax in Northern Ireland, less the dependent income tax, has been finally determined, and in consequence the sum of £44,406 from provisions made in the war years for this liability has been released. This sum, together with a release from provisions for income tax of £32,983, leaves, after meeting the deficit, a credit of £5,000. With the balance brought forward from the previous year, there is £42,000 available for the payment of a dividend on the consolidated 4 per cent. guaranteed stock, and the directors have decided, subject to audit, to recommend the payment, on March 15, of the 4 per cent. dividend, less income tax, on that stock in respect of the year ended December 31, 1948. Balance forward will be about £8,000. The directors state that they are not in a position to recommend the payment of dividends on the consolidated 4 per cent. preference stock and the ordinary stock.

Railway Benevolent Institution.—At its meeting on January 21, the board of the Railway Benevolent Institution granted annuities to 16 widows and 34 members, amounting to £850 8s. per annum, and authorised 61 grants amounting to £637 7s. from the special benevolent fund in cases of immediate necessity. Grants made from the casualty fund during December, 1948, amounted to £455 9s. 6d.

Chilean Northern Railway.—A meeting of holders of Chilean Northern Railway 5 per cent. first mortgage debentures is called for February 17, to consider a resolution directing the trustees to accept, in respect of the creditors vested in them, the form of service provided for by the Chilean Law No. 8962 of July 20, 1948, and by the General Bond given by the Government of the Republic of Chile dated as of January 1, 1948. A resolution to approve a supplemental trust deed also will be considered.

British Railways Zonal Scheme.—A new zone, based on Newtown, Montgomery, was brought into use by the Western Region of British Railways on February 1. This zone is approximately 500 sq. miles in area. The scheme is designed to improve the transit of small consignments between districts, including remote towns and villages, by concentrating goods on a smaller number of stations, and thus enabling full truckloads to be made up and despatched direct from zone to zone. The new railhead at Newtown will deal with small traffic at present handled at twelve stations.

Institute of Transport Silver Jubilee Scholarship.—The council of the Institute of Transport invites applications from members of the Institute for the award in 1949 of the Silver Jubilee Scholarship of value not exceeding £150. Applications must be made on a form to be obtained from the Secretary, Institute of Transport, 80, Portland Place, London, W.1, with whom it must be deposited not later than May 31. Each application must be supported by a Member (M.Inst.T.) of the Institute who, by personal contact, has had the opportunity to form an opinion of the suitability of the applicant. The member awarded the Silver Jubilee Scholarship qualifies also for the F. C. Coleman *Modern Transport* Award.

Mexican Railway Assets Distribution.—The Mexican Railway Company, whose undertaking was taken over by the Mexican Government in May, 1946, is to distribute the first £2,030,534 of the proceeds of the sale of its assets. Interim payments, which are in accordance with the Order of Priorities laid down by the High Court, are: 6 per cent. debenture stock, 84¼ per cent.; 4½ per cent. registered "A" stock, 159 per cent., of which 59 per cent. will be subject to income tax; 4½ per cent. second debenture stock, 18 per cent.; 3½ per cent. registered "B" stock, 30 per cent. It is hoped to call

Inspection of C.N.R. Research Laboratories

Mr. R. C. Vaughan, Chairman & President, Canadian National Railways, inspecting a testing machine at the new research and testing laboratories at Montreal. With Mr. Vaughan are Mr. A. D. MacPherson, Controller of Tests & Materials Research, Mr. A. T. Westbrook, Metallurgist, and Mr. S. W. Fairweather, Vice-President, Research & Development

OFFICIAL NOTICES

None of the vacancies on this page relates to a man between the ages of 18 and 50, inclusive, or a woman between the ages of 18 and 40, inclusive, unless he, or she, is excepted from the provisions of the Control of Engagement Order, 1947, or the vacancy is for employment excepted from the provisions of that Order.

Crown Agents for the Colonies

APPLICATIONS from qualified candidates are invited for the following post:—

SENIOR DRAUGHTSMAN (ENGINEERING) required by the East African Railways and Harbours for 2 to 4 years, with prospect of permanency. Salary £710 a year rising to £810 a year. Free passages and quarters. Superannuation fund. Candidates must have a sound knowledge of engineering works and building construction; and of the design of structural steel and reinforced structures. A knowledge of railway yard layout an advantage. Apply at once by letter, stating age, whether married or single, and full particulars of qualifications and experience, and mentioning this paper, to the CROWN AGENTS FOR THE COLONIES, 4, Millbank, London, S.W.1, quoting M/N/23736 (3D) on both letter and envelope.

RUSTON & HORNSBY DIESEL LOCOMOTIVES, 4-wheel, 24-in. gauge, 3-speed gear-box, forward or reverse, with Lister 2-cylinder vertical water-cooled engine, 600 r.p.m.

Two—20 h.p. Overall dimensions 8 ft. 6 in. long, 3 ft. 2 in. wide, 6 ft. 4 in. high, with driver's cabin 3 ft. 8 in. × 3 ft. 2 in. × 4 ft. 8 in. high.

Three—10 h.p. Overall dimensions 9 ft. long, 3 ft. 2 in. wide, 5 ft. high. Open type.

Condition equal to new, ready for immediate use. May be inspected at our works.

COX & DANKS LIMITED,
Plant & Machinery Dept.,
SCAPA WORKS, NEATH, GLAMORGAN.
'Phone: Neath 2505.

A 7-10-TON Steam Loco Crane wanted with 35-ft. jib, mounted on heavy-duty, sprung, shunting carriage, 4 ft. 8½ in. gauge, 120 lb. boiler. Preference for crane fitted with either lifting magnet or double purchase grab.

Please send full details to:—
COX & DANKS LIMITED,
Plant & Machinery Dept.,
FAGGS ROAD, FELTHAM, MIDDX.
'Phone Feltham 3471/3.

11-H.P. 220-volt D.C. STARTERS by Allen West. Drum type, weatherproof. Incorporating hand operation, interlocked mechanically. N.V. & O.L.'s, ammeter, signal lights, line contactor, starting resistance integral. As new. 26 available.

40-h.p. 220-volt D.C. STARTERS by Allen West. Drum type, weatherproof. Incorporating hand operation, interlocked mechanically. N.V. & O.L.'s, ammeter, signal lights, line contactor, starting resistance integral. As new. 19 available.

50-h.p. D.C. STARTER by Met. Vick., 440/500 volts. Hand operated, face plate type, totally enclosed. N.V. & O.L. Coil incorporated.

AUTO STARTER PANEL by Igranic Co. for two 7½-h.p. 500-volt D.C. motors. P.B. operated starting and reversing. Integral resistances. Each starter controlled separately. Floor mounted cubicle type with external P.B. and ammeters.

COX & DANKS LIMITED,
Plant & Machinery Dept.,
FAGGS ROAD, FELTHAM, MIDDX.
'Phone: Feltham 3471.

MOTOR GENERATOR SETS

ONE—by Canning, comprising 60 volt, 400 amp., d.c. GENERATOR (C.P. type) with exciting generator, 110 volt, 5 amps., driven by 39 h.p. motor, 1,430 r.p.m. S.R. B.B., for 400/3/50 supply.

One—by Mawdsley, comprising 3½ kW. 220 volt. 16/18 amp. GENERATOR, S.P. B.B., Shunt wound with Field Regulator, driven by 7½ h.p. Crompton Parkinson motor, 1,440 r.p.m. S.C.S.P. B.B., for 200/230/1/50 supply.

One—by Canning, comprising 6 volt, 350 amp., d.c. GENERATOR driven by 4 h.p. motor, 1,450 r.p.m. S.C.S.P. B.B., for 440/3/50 supply.

One—by E.E.C., comprising 5 kW. 440 volt, 11.5 amp. d.c. GENERATOR, shunt wound, driven by 8 h.p. Brooks motor, 1,500 r.p.m. S.C.S.P. B.B., for 400/3/50 supply.

COX & DANKS LIMITED,
Plant & Machinery Dept.,
LANGLEY GREEN, OLDBURY, BIRMINGHAM.
(Broadwell 2011.)
PRUDENTIAL BUILDINGS, MILL STREET, BEDFORD.
(Bedford 3258.)
FAGGS ROAD, FELTHAM, MIDDLESEX.
(Feltham 3471.)

FOR SALE.—Passenger Tank Engine; built Atlas Works, Glasgow, 1895; lightly used. Cylinder dimensions 13 in. by 18 in., boiler pressure 120 lbs. sq. in. Wheel arrangement 0-4-4 dia. coupled wheels 4 ft. 6 in. bogie wheels 2 ft. 6 in. On view, Engine Shed, Golspie Station.—Enquiries and offers to THOMAS ADAM, Sutherland Estates Office, Golspie, Scotland.

Crown Agents for the Colonies

APPLICATIONS from qualified candidates are invited for the following post:—

ENGINEER FOR BRIDGE RECONSTRUCTION (Capital Works) required by Nigerian Railway, Temporary Staff, for one tour of 18 to 24 months in the first instance. Consolidated salary £1,000-£1,400 according to qualifications. Outfit allowance £60. Free first class passages. Candidates must have had experience on the construction and re-girdering of large Railway Bridges, including the erection of falsework with piled foundations. Apply at once by letter, stating age, whether married or single, and full particulars of qualifications and experience, and mentioning this paper, to the CROWN AGENTS FOR THE COLONIES, 4, Millbank, London, S.W.1, quoting M/N/24290/3D on both letter and envelope.

APPLICATIONS from qualified candidates for following posts are invited by British Railway operating in Chili and Bolivia:—

1. ASSISTANT CHIEF MECHANICAL ENGINEER, aged about 35/40, must be A.M.I.Mech.E. and/or B.Sc. (Eng.), have completed locomotive engineering apprenticeship on a recognised Railway and have held post not below District Locomotive Superintendent or Works Manager. Commencing salary £1,200 p.a.

2. ASSISTANT ELECTRICAL ENGINEER, aged 30/40. Must be A.M.I.E.E., have served apprenticeship in the Electrical Trade, experienced in diesel and steam generating plants for lighting and power, and be capable of installing and maintaining motors, train lighting and workshops and domestic electrical equipment generally. Salary £650, £700 and £750 p.a. for first, second and third years.

3. BOILER SHOP FOREMAN, aged 30/40. Must have served apprenticeship in a Locomotive Builders' or Railway Workshops, be capable of supervising heavy repairs to locomotive boilers, had good experience of handling labour, and held post not less than charge-hand. Salary, £600, £650 and £700 p.a. for first, second and third years of initial contract.

Free quarters, passages, allowances, etc., provided. Applications with full particulars of qualifications and experience, and copies of any testimonials held, should be addressed early to: Box 2662, c/o CHARLES BARKER & SONS LTD, 31, Budge Row, London, E.C.4.

URGENTLY required: Wood Incising Machine similar to "Robinson" SB No. 1 size.—Box 268, *The Railway Gazette*, 33, Tothill Street, Westminster, S.W.1.

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meetings under the Court's direction in time to make the distribution in May. The payments now announced are less than the prices of the corresponding stocks in the market. For instance, the 4½ per cent. second debenture stands at 25 and the 6 per cent. debenture stock at 86. However, a final payment is to be expected, although no guidance is offered as to what it may be. In September, 1947, the trustees for the debenture holders stated that they would recommend the allocation of 5 per cent. of the net sum available, with a maximum of £100,000, for making a payment to holders of share capital.

French Railways Exhibition in Edinburgh.—On January 10 an exhibition of French National Railways photographs and posters opened at the premises of the French Institute of Scotland, 13, Randolph Crescent, Edinburgh. It will remain open until February 19. In connection with the exhibition, sound films of the French Railways are being shown, some with English, others with French, commentaries. Arrangements for the showing of the films are in the hands of the Director of the Institute, who will supply on request details of days and times of showings.

British Iron & Steel Research Association.—The British Iron & Steel Research Association is to admit to a newly-established category of Associate Membership, firms and individuals interested in the manufacture and use of iron and steel, but not themselves makers or processors. Associate members will receive research reports, and will be able to attend the technical conferences which are a feature of the information methods of B.I.S.R.A., numbering about 20 yearly and covering almost every aspect of the Association's work. The organisation of the B.I.S.R.A. into six largely autonomous divisions will enable the associate members to restrict their participation to selected fields if they wish.

British Railways (Western Region) London Lecture & Debating Society.—It has been necessary for the meeting of British Railways (Western Region) London Lecture & Debating Society, arranged for February 3, to be postponed. The meeting now will be held on February 10 and will include a reading and discussion of the prize essay competition.

Canadian National Railways Results.—Net revenue in 1948 was $26,529,980, a decrease of $14,545,393 compared with 1947. Operating revenues were $491,269,950, an increase of $53,071,970 on the year. Operating expenses increased to $464,739,970 from $397,122,607. For the month of December net revenue was $6,202,980—which represents an increase of $2,452,607 over the corresponding month in 1947.

Festival of Britain Transit Facilities.—As part of the special transit facilities for the 1951 Festival of Britain there will be direct communication by escalator between Waterloo Underground Station and the exhibition site on the south bank of the Thames; there will also be new subways and escalators at Charing Cross Underground Station to minimise overcrowding of the District Railway platforms. Temporary footbridges leading to the site are to be built from Victoria Embankment at Charing Cross and from Waterloo Station. The Hungerford footbridge will be extended over the exhibition site to near Waterloo Station and will preserve the normal right of way from Charing Cross. These measures have been proposed by a working party representing the Ministry of Transport and other Government departments, the London County Council, the British Transport Commission, the London Transport Executive, the Railway Executive, the Port of London Authority, the Metropolitan and City police, and the Festival of Britain authorities.

Trent Motor Traction Report.—The net profit of the Trent Motor Traction Co. Ltd. for 1948 was £169,512, against £151,414, after providing £68,969 for depreciation and £55,491, against £99,689, for tax. A final dividend of 10 per cent., *plus* a bonus of 10 per cent., making 30 per cent. for the whole year, will be paid, this dividend being the same as that paid last year.

Cheap Day Ticket Availability.—After a careful review of the loadings of Saturday morning business-trains, the Southern Region has found it possible to reduce the restricted period for the use of cheap day tickets. At present cheap day tickets are not available on Saturdays between 12 noon and 2 p.m., but from February 5 the restricted period will end at 1.30 p.m.

Southampton Docks Business Increasing.—Last year nearly 14½ million gross tons of shipping was dealt with at Southampton Docks, nearly 2,000,000 tons more than the 1947 total, while the number of passengers using the port increased by 10,000. During 1938 the total of passengers was 560,000, and last year this was increased to 587,000. Vessels of British Railways operating from Southampton to France and the Channel Islands, carried nearly 103,000 tons of cargo, or 23,000 tons more than in the previous twelve

months. The number of passengers who travelled by these vessels increased from 377,897 in 1947 to 384,070 last year.

Railway Wage Dispute.—At a meeting on Tuesday of the negotiating committee it was agreed to refer the disputed claim of the National Union of Railwaymen for an increase of 12s. 6d. a week to the Wages Board. A chairman will have to be appointed by agreement, and each side will nominate one other member. The board will meet as soon as possible after its composition has been agreed.

Forthcoming Meetings

February 5 (*Sat.*).—Electric Railway Society, at the Fred Tallant Hall, Drummond Street, London, N.W.1, at 3 p.m. "Suburban Railway Operation," by Mr. C. F. Klapper, Assistant Editor, *Modern Transport*.

February 7 (*Mon.*).—Institution of Electrical Engineers, Savoy Place, London, W.C.2, at 6 p.m. Discussion on: "Electrical Engineering taught to other than Electrical Engineers," opened by Professor A. A. Hall and Mr. H. C. Mann. Joint meeting with other Institutions.

February 7 (*Mon.*).—Society of Engineers. Presidential address by Mr. E. S. Waddington, followed by Annual Dinner at Criterion Restaurant.

February 7 (*Mon.*).—Institute of Transport, Metropolitan Section, at Livingstone House, Broadway, London, S.W.1, at 5.30 for 6 p.m. "Inland Waterways as Affected by the Transport Act, 1947," by Mr. W. L. Ives.

February 8 (*Tue.*).—Permanent Way Institution, Sheffield Section, at the Royal Victoria Hotel, Sheffield, at 7 p.m. "Concrete Practice," by Mr. R. C. Blyth.

February 8 (*Tue.*).—Stephenson Locomotive Society, 32, Russell Road, Kensington, London, W.14, at 6.30 p.m. "The Churchward Engines of the G.W.R.," by Dr. W. A. Tuplin.

February 8 (*Tue.*).—Institute of Transport, Yorkshire Section, at the Great Northern Station Hotel, Leeds, at 6.30 p.m. "Swiss Federal Railways," by Mr. H. O. Ernst, Manager, Swiss Federal Travel Agency, London.

February 9 (*Wed.*).—Railway Students' Association, London School of Economics & Political Science, Houghton Street, Aldwych, London, W.C.2, at 6 p.m. "The Construction & Building of Railway Carriages," by Mr. A. E. Bates, Carriage & Wagon Works Superintendent, Derby.

February 10 (*Thu.*).—Institute of Metals, London Local Section, at 4, Grosvenor Gardens, S.W.1, at 7 p.m. "Metallic Corrosion," by Mr. T. P. Hoar.

February 10 (*Thu.*).—Institute of Transport, North Western Section, at the Chamber of Commerce, Manchester, at 6.15 p.m. "The Transport Act, 1947," by Mr. M. A. Cameron, Assistant Secretary (Traffic), British Transport Commission.

February 10 (*Thu.*).—British Railways (Western Region) London Lecture & Debating Society, in the Clerks' Dining Club, Bishop's Bridge Road, Paddington, at 5.45 p.m. Prize Essay Competition: Reading & Discussion.

Railway Stock Market

A feature of the stock markets has been renewed strength of British Funds which have responded to the assumption that the £200,000,000 of British Gas stock will probably be longer-dated than the 3 per cent. Transport (1978-88). This has strengthened existing long-dated stocks, and Transport (1978-88) moved up to 101⅛, while Transport (1968-73) was close on 103. It has been decided to issue British Gas stock after the Budget and this has given rise to the view that the Budget is likely to prove a good factor for the gilt-edged market.

Foreign railway stocks attracted only moderate attention, with Brazil rails awaiting the outcome of take-over proposals, which it is assumed form part of the Anglo-Brazil financial discussions. After being higher, Great Western of Brazil shares eased to 113s. 9d., and Leopoldina stocks also eased, the ordinary to 10½, the preference to 36¾, and the 4 per cent. debentures to 83¼, though Leopoldina Terminal 5 per cent. debentures, after being 74½, rallied to 75. San Paulo eased to 157.

News that the take-over purchase money has been paid, and that debenture repayments will be made early in April, drew attention to Uruguayan rails. Prices in many cases showed moderate gains, but business was small, stocks being held firmly now that the pay-out of all classes of stocks is likely to be completed by June next. Central Uruguay first debentures were a point up at 112, the second debentures 83½, and the ordinary stock also better at 12. Uruguay Northern prior lien stock was marked up to 145 and the North Western second debentures to 157. The speed with which the Uruguay railway pay-out has been arranged is in sharp contrast to the delays which featured the attitude of Brazil in the case of the San Paulo Railway.

The scheme of arrangement announced by the Mexican Railway came in for criticism in the City and the various stocks moved lower. United of Havana 1906 debentures were steady at 13½. Antofagasta ordinary and preference were 9½ and 57 respectively. Nitrate Rails shares were 70s., Chilean Northern 5 per cent. first debentures marked 36, Costa Rica first debentures 65, while Manila Railway "A" debentures were 84 and the preference shares 8s. 9d. Beira Railway bearer shares showed a steadiness at 46s. 6d. and C.P.R. transferred slightly below 23.

Main attention in shares of road transport companies centred on Scottish Motor Traction following the pay-out agreement with the B.T.C. Scottish Motor Traction slumped to 95s., but later rallied to 105s., on the estimate of the break-up value of the 5s. units and the forecast of a capital return of approximately £5 per 5s. unit. The company plans to continue with its non-transport assets. Bristol Trams were again better at 92s., Thomas Tilling 123s. 7½d., and B.E.T. stock fluctuated around £1,890. Scottish Motor Traction preference shares fell sharply on fears that they may not receive much more than 22s. They are strictly entitled to only par on repayment.

Iron and steel shares showed only small movements, despite good financial results, take-over terms and uncertainty as to which of the non-steel assets of various companies may not be taken over being factors which restrict activity. Yields are not unattractive, however, and dividends should be maintained this year. The shares are scheduled to be exchanged into British Steel stock in May, 1950, according to Government plans. There is little likelihood of iron and steel shares falling in price and they offer a means of acquiring a long-term interest in British Funds. Among shares of locomotive building and engineering companies, Beyer Peacock were 24s. 4½d., North British Locomotive 23s. 9d., and Vulcan 26s. 9d., though Gloucester Wagon receded to 60s. T. W. Ward rose to 68s. 9d. and Charles Roberts rallied strongly to £7.

Traffic Table of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffics for week: Total this year	Traffics for week: inc. or dec. compared with 1947/48	No. of weeks	Aggregate traffics to date: Total 1948/9	Aggregate traffics to date: Increase or decrease
South & Central America	Antofagasta	811	23.1.49	£ 61,000	+ £ 15,120	3	£ 248,710	+ £ 57,870
	Bolivar	174	July, 1948	$28,960	− $69,357	30	$471,287	− $301,893
	Brazil	—	—	—	—	—	—	—
	Cent. Uruguay	970	6.11.48	32,712	+ 2,978	18	595,105	− 7,652
	Costa Rica	281	Nov., 1948	35,992	+ 1,696	22	179,839	+ 17,492
	Dorada	70	Dec., 1948	32,515	+ 6,915	52	338,423	− 12,377
	G.W. of Brazil	1,040	22.1.49	42,500	− 1,700	3	126,400	− 16,400
	Inter. Ctl. Amer.	794	Nov., 1948	$1,094,493	+ $44,021	48	$12,165,251	+ $211,814
	La Guaira	22¼	Dec., 1948	$115,163	+ $25,985	52	$1,273,516	+ $19,091
	Leopoldina	1,920	22.1.49	50,443	− 8,758	3	153,237	− 31,534
	Midland Uruguay	319	Sept., 1948	19,608	+ 3,123	12	67,355	+ 16,721
	Nitrate	382	15.1.49	15,065	+ 1,379	2	15,065	+ 1,379
	N.W. of Uruguay	113	Sept., 1948	5,686	− 1,23	12	16,335	+ 1,989
	Paraguay Cent.	274	22.1.49	G$13,460	− G$3,368	29	G$3,029,805	+ G$1,107,350
	Peru Corp.	1,059	Dec., 1948	205,440	+ 21,029	26	1,160,130	+ 134,011
	Salvador	100	Oct., 1948	c$2,000	+ c1,400	18	c$329,000	+ c13,400
	San Paulo	153½	—	—	—	—	—	—
	Taltal	156	Dec., 1948	8,900	+ 510	26	47,420	+ 6,680
	United of Havana	1,301	22.1.49	$213,592	− $211,682	29	$6,232,653	− $2,427,108
	Uruguay Northern	73	Sept., 1948	1,072	+ 52	12	3,308	+ 111
Canada	Canadian National	23,473	Dec., 1948	11,254,987	+ 1,630,242	52	122,817,487	+ 13,267,992
	Canadian Pacific	17,037	Dec., 1948	7,769,250	+ 618,000	52	88,812,250	+ 9,165,750
Various	Barsi Light*	202	31.12.48	25,875	+ 277	39	246,667	+ 20,355
	Beira	204	Oct., 1948	126,338	+ 10,322	4	126,338	+ 10,322
	Egyptian Delta	607	20.12.48	23,669	+ 2,203	38	532,935	+ 109,048
	Gold Coast	536	Nov., 1948	246,162	+ 84,582	35	1,648,016	+ 459,522
	Manila	—	—	—	—	—	—	—
	Mid. of W. Australia	277	Nov., 1948	30,031	+ 10,295	22	143,744	+ 35,685
	Nigeria	1,900	Nov., 1948	495,323	+ 70,029	33	3,647,496	+ 716,766
	Rhodesia	2,445	Sept., 1947	643,980	+ 102,833	52	6,787,603	+ 612,938
	South Africa	13,347	1.1.49	1,156,160	+ 48,658	39	53,041,438	+ 3,254,870
	Victoria	4,774	June, 1948	1,358,791	+ 248,144	52	—	—

*Receipts are calculated @ 1s. 6d. to the rupee